08-17-00

A

BOX SEQ

JC828 U.S. PTO 08/16/00

JC882 U.S. PTO 09/640211 08/16/00

CERTIFICATE OF EXPRESS MAILING

"Express Mail" Mailing Label No.: EJ663655227US

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. 1.10 on the date indicated below and is addressed to BOX NEW APP FEE, Assistant Commissioner for Patents, Washington, D. C. 20231.

Date of Deposit: August 16, 2000

Selena Whitaker-Paquiet

Selena Whitaker-Paquiet

Attorney Docket No. 11000.1021c1u
PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BOX NEW APP FEE
Assistant Commissioner For Patents
Washington, D.C. 20231

PATENT APPLICATION TRANSMITTAL LETTER

Dear Sir or Madam:

Transmitted herewith for filing is the patent application of

Inventors : **Marion Wood, Michael A. Shenk, Annette McGrath and Matthew Glenn**

For : **COMPOSITIONS AND METHODS FOR THE MODIFICATION OF GENE TRANSCRIPTION**

[X] 42 pages of specification and claims.
[X] 753 pages of sequence listing
[X] A Statement for Sequence Listing Transmittal is enclosed herewith together with an ASCII Computer Disk Sequence pursuant to 37 CFR 1.821(f). It is believed that the content of the paper sequence listing and the computer readable sequence listing are the same.
[X] Combined Declaration and Power of Attorney (unsigned).

CLAIMS AS FILED

For	Number Filed		Number Extra		Rate		Basic Fee $ 690.00
Total Claims	30 - 20	=	10	x	$ 18.00	=	$ 180.00
Independent Claims	3 - 3	=	0	x	$ 78.00	=	$ 0.00
Multiple Dependent Claim Fee					$260.00		$ 0.00
						TOTAL FEE	**$ 870.00**

1. [X] Applicant does not qualify as a small entity status under 37 CFR 1.9 and 1.27, therefore, the large entity filing fee is enclosed herewith.

2. [X] A check in the amount of **$870.00** is enclosed in payment of the above **TOTAL FEE.**

3. [X] The Commissioner is hereby authorized to charge any additional fees which may be required in connection with the filing of this application or to credit any overpayment to Deposit Account No. 19-3555. A duplicate copy of this transmittal is enclosed.

4. [X] Address all future correspondence and telephone calls to Janet Sleath at:

SPECKMAN LAW GROUP
1501 Western Avenue, Suite 100
Seattle WA 98101
Tel: 206.382.1191

Respectfully Submitted,

By: Janet Sleath

Janet Sleath
Registration No. 37,007

August 16, 2000
SPECKMAN LAW GROUP
1501 Western Avenue, Suite 100
Seattle, Washington 98101
Telephone: (206) 382-1191
Facsimile: (206) 382-2669

COMPOSITIONS AND METHODS FOR THE MODIFICATION OF GENE TRANSCRIPTION

Cross-Reference to Related Applications

This application claims priority to International Patent Application No. PCT/US/00/06112, filed March 9, 2000, and U.S. Provisional Patent Application No. 60/149,485, filed August 18, 1999, and is a continuation-in-part of U.S. Patent Application No. 09/266,513, filed March 11, 1999.

Technical Field of the Invention

This invention relates to compositions isolated from plants and their use in the modification of gene transcription and/or expression. More specifically, this invention relates to plant polynucleotide sequences encoding transcription factors that are components of the cellular transcription apparatus and the use of such polynucleotide sequences in the modification of gene expression.

Background of the Invention

Eucaryotic gene expression is regulated, in part, by the cellular processes involved in transcription. During transcription, a single-stranded RNA complementary to the DNA sequence to be transcribed is formed by the action of RNA polymerases. Initiation of transcription in eucaryotic cells is regulated by complex interactions between *cis*-acting DNA motifs, located upstream of the gene to be transcribed, and *trans*-acting protein factors. Among the *cis*-acting regulatory regions are sequences of DNA, termed promoters, which are located close to the transcription initiation site and to which RNA polymerase is first bound, either directly or indirectly. Promoters usually consist of proximal (*e.g.,* TATA box) and more distant elements (*e.g.,* CCAAT box). Enhancers are cis-acting DNA motifs which may be situated further up- and/or down-stream from the initiation site.

Both promoters and enhancers are generally composed of several discrete, often redundant, elements each of which may be recognized by one or more *trans*-acting regulatory

proteins, known as transcription factors. Regulation of the complex patterns of gene expression observed both spatially and temporally, in all developing organisms, is thought to arise from the interaction of enhancer- and promoter-bound, general and tissue-specific transcription factors with DNA (Izawa T, Foster R and Chua NH, *J. Mol. Biol.* 230:1131-1144, 1993; Menkens AE, Schindler U and Cashmore AR, *Trends in Biochem. Sci.* 13:506-510, 1995). Developmental decisions in organisms as diverse as *Drosophila melanogaster, Saccharomyces cerevisiae, Arabidopsis thaliana and Pinus radiata* are regulated by transcription factors. These DNA-binding regulatory molecules have been shown to control the expression of genes responsible for the differentiation of different cell types, for example, the differentiation of leaf trichomes and xylem tissue in *Arabidopsis thaliana,* formation of endoderm from embryonic cells in *Xenopus laevis* and the initiation of gene expression in response to environmental and phytohormonal stress in plants (Yanagisawa S and Sheen J, *The Plant Cell* 10:75-89, 1998).

Transcription factors generally bind DNA in a sequence-specific manner and either activate or repress transcription initiation. The specific mechanisms of these interactions remain to be fully elucidated. At least three separate domains have been identified within transcription factors. One is essential for sequence-specific DNA recognition, one for the activation/repression of transcriptional initiation, and one for the formation of protein-protein interactions (such as dimerization). Four motifs, or domains, involved in DNA sequence recognition and/or transcription factor dimerization have been identified to date: zinc fingers; helix-turn-helix; leucine zipper; and helix-loop-helix. Both helix-loop-helix and leucine zipper protein motifs have been implicated in the binding of transcription factors to DNA via their ability to readily form homo- or hetero-dimers *in vivo*. "Activating" domains are rich in either proline, glutamine or acidic amino acids. It has been proposed that this net negative region of the transcription factor interacts with the TATA box-binding transcription factor TFIID, RNA polymerase, and/or another protein associated with the transcription apparatus.

Studies indicate that many plant transcription factors can be grouped into distinct classes based on their conserved DNA binding domains (Katagiri F and Chua NH, *Trends Genet.* 8:22-27, 1992; Menkens AE, Schindler U and Cashmore AR, *Trends in Biochem. Sci.* 13:506-510, 1995; Martin C and Paz-Ares J, *Trends Genet.* 13:67-73, 1997). Each member of these families interacts and binds with distinct DNA sequence motifs that are often found

in multiple gene promoters controlled by different regulatory signals. Several classes of transcription factors that have been identified to date are described below.

The basic/leucine zipper (bZIP) is a conserved family of transcription factors defined by a basic/leucine zipper (bZIP) motif (Landschultz et al., *Science* 240:1759-1764, 1988; McKnight, *Sci. Am.*. 264:54-64,1991; Foster et al., *FASEB J.* 8[2]:192-200, 1994). Transcriptional regulation of gene expression is mediated by both the bZIPs and other families of transcription factors, through the concerted action of sequence-specific transcription factors that interact with regulatory elements residing in the promoter regions of the corresponding gene. The bZIP bipartite DNA binding structure consists of a region enriched in basic amino acids (basic region) adjacent to a leucine zipper that is characterized by several leucine residues regularly spaced at seven amino acid intervals (Vinson et *al*., *Science* 246:911-916, 1989). Whereas the basic region directly contacts the DNA, the leucine zipper mediates homodimerisation and heterodimerisation of protein monomers through a parallel interaction of the hydrophobic dimerization interfaces of two α-helices, resulting in a coiled-coil structure (O'Shea et al., *Science* 243:538-542, 1989; *Science* 254:539-544, 1991; Hu et al., *Science* 250:1400-1403,1990; Rasmussen et al., *Proc. Natl. Acad. Sci. USA* 88:561-564, 1991).

Dof proteins are a relatively new class of transcription factor and are thought to mediate the regulation of some patterns of plant gene expression in part by combinatorial interactions between bZIP proteins and other types of transcription factors binding to closely linked sites. Such an example of this combinatorial interaction has been observed between bZIP and Dof transcription factors (Singh, *Plant Physiol.* 118:1111-1120, 1998). These Dof proteins possess a single zinc-finger DNA binding domain that is highly conserved in plants (Yanagisawa, *Trends Plant Sci.* 1:213, 1996). Specific binding of the Dof protein to bZIP transcription factors has been demonstrated and it has been proposed that this specific interaction results in the stimulation of bZIP binding to DNA target sequences in plant promoters (Chen et al., *Plant J.* 10:955-966, 1996). Examples of such Dof/bZIP interactions have been reported in the literature, including for example, the *Arabidopsis thaliana* glutathionine S-transferase-6 gene (GST6) promoter which has been shown to contain several Dof-binding sites closely linked to the ocs element, a recognized bZIP binding site (Singh, *Plant Physiol.* 118:1111-1120, 1998).

The bZIP family of G-box binding factors from Arabidopsis (including GBF1, GBF2 and GBF3, for example) interact with the palindromic G-box motif (CCACGTGG). However, it has been demonstrated that the DNA binding specificity of such transcription factors, for example GBF1, may be influenced by the nature of the nucleotides flanking the ACGT core (Schindler et al., *EMBO J.* 11:1274-1289, 1992a). *In vivo* transient and transgenic plant expression studies have shown that these ACGT elements are necessary for maximal transcriptional activation and have been identified in a multitude of plant genes regulated by diverse environmental, physiological, and environmental cues. Classification of these transcription factors based upon their ability to bind to the ACGT core motif yielded a relatively diverse group of proteins, including, for example the CamV 35S promoter as-1-binding protein which exhibits DNA binding site requirements distinct from those proteins interacting with the G-box (Tabata et al., *EMBO J.* 10:1459-1467, 1991). Thus, in addition to defining the individual classes of bZIP proteins on the basis of their DNA binding specificity, such proteins can also be classified according to their heterodimerisation characteristics (Cao et al., *Genes Dev.* 5:1538-1552, 1991; Schindler et al., *EMBO J.* 11:1261-1273, 1992b).

Environmentally inducible promoters require the presence of two cis-acting elements, critical for promoter activity, one of which is the moderately conserved G-box (CCACGTGG) (deVetten et al., *Plant Cell* 4[10]:1295-1307, 1992). A mutation in one of the two elements abolishes or severely reduces the ability of the promoter to respond to environmental changes. The sequence of the second cis-acting element, positioned near the G-box, is not conserved among different environmentally-inducible promoters, but may be similar among promoters induced by the same signal. The spacing between the G-box and the second cis-acting element appears to be critical, suggesting a direct interaction between the respective binding factors (deVetten and Ferl, *Int. J. Biochem.* 26[9]:1055-1068, 1994; Ramachandran et al., *Curr. Opin. Genet. Dev.* 4[5]:642-646, 1994).

Basic helix-loop-helix zipper proteins represent an additional class of bZIP transcription factors described in the literature and includes, for example, the Myc proteins. These proteins contain two regions characteristic of transcription factors: an N-terminal transactivation domain consisting of several phosphorylation sites, and a C-terminal basic helix-loop-helix (bHLH) leucine zipper motif known to mediate dimerization and sequence

specific DNA binding via three distinct domains: the leucine zipper, helix-loop-helix, and basic regions.

The Myb family of transcription factors is a group of functionally diverse transcriptional activators found in both plants and animals that is characterized by a conserved amino-terminal DNA-binding domain containing either two (in plant species) or three (in animal species) imperfect tandem repeats of approximately 50 amino acids (Rosinski and Atchley, *J. Mol. Evol.* 46(1):74-83, 1998; Stober-Grasser et al., *Oncogene* 7[3]:589-596, 1992). Comparisons between the amino acid sequences of representative plant and mammalian MYB proteins indicate that there is a greater conservation between the same repeat from different proteins, than between the R2 and R3 repeats from the same protein (Martin and Paz-Ares, *Trends Genet.* 13[2]:67-73, 1997). More than 100 MYB genes have been reported from *Arabidopsis thaliana* (Romero et al., *Plant J.* 14[3]:273-284, 1998), representing the largest regulatory gene family currently known in plants. DNA-binding studies have demonstrated that there are differences, but also frequent overlaps, in binding specificity among plant MYB proteins, in line with the distinct but often related functions that are beginning to be recognized for these proteins. Studies involving the eight putative base-contacting residues in MYB DNA binding domains have revealed that at least six are fully conserved in all plant MYB proteins identified to date and the remaining two are conserved in at least 80 % of these proteins (Martin and Paz-Ares, *Trends Genet.* 13[2]:67-73, 1997). Mutational analysis involving residues that do not contact bases have indicated that the sequence-specific binding capacity of MYBs is affected and this may account for some of the differences in the DNA–binding specificity between plant MYB proteins (Solano et al., *J. Biol. Chem.* 272[5]:2889-2895, 1997). This large-sized gene family may contribute to the regulatory flexibility underlying the developmental and metabolic plasticity displayed by plants.

Homeotic transcription factors have, in animals, been implicated in a number of developmental processes including, for example, the control of pattern formation in insects and vertebrate embryos and the specification of cell differentiation in many tissues (Ingham, *Nature* 335:25-34, 1988; McGinnis and Krumlauf, *Cell* 68:283-302, 1992). Homeodomain secondary structures are characterized by a distinctive helix-turn-helix motif initially identified in bacterial DNA binding domains. This helix-turn-helix sequence/structure motif

spans approximately 20 amino acids and is characterized by two short helices separated by a sharp 90 degree bend or turn (Harrison and Aggarwal, *Ann. Rev. Biochem.* 59:933-969, 1990). This helix has been shown to bind in the major groove of the DNA helix.

Plant homeobox genes have been identified in a number of plant species including *Arabidopsis thaliana,* maize, parsley and soybean. Expression pattern analysis of maize homeobox gene family members suggests that these transcription factors may be involved in defining specific regions in the vegetative apical meristem, potentially involved in the initiation of leaf structures (Jackson et al., *Development* 120:405-413, 1994). Such observations imply that the plant homeobox genes, as for the animal homeobox genes, may be involved in the determination of cell fate.

Homeodomain-zipper (HD-zip) represents an additional family of homeodomain proteins. These homeodomain-zipper proteins (HD-zip) possess both the characteristic homeodomain linked to an additional leucine zipper dimerization motif. This family includes, for example, Athb-1 and Athb-2 (Sessa et al., *EMBO J.* 12:3507-3517, 1993) and Athb-4 (Carabelli et al., *Plant J.* 4:469-479, 1993).

The LIM domain is a specialized double-zinc finger motif found in a variety of proteins, in association with domains of divergent functions, such as the homeodomain (*see* the sunflower pollen-specific SF3 transcription factor: Baltz et al., *Plant J.* 2:713-721, 1992; or forming proteins composed primarily of LIM domains: Dawid et al., *Trends Genet.* 14[4]:156-162, 1998). LIM domains interact specifically with other LIM domains and with many different protein domains. LIM domains are thought to function as protein interaction modules, mediating specific contacts between members of functional complexes and modulating the activity of some of the constituent proteins. Nucleic acid binding by LIM domains, while suggested by structural considerations, remains an unproven possibility. However, it is possible that together with the homeodomain, the LIM domain could bind to the regulatory regions of developmentally controlled genes, as has been proposed for the paired box, a conserved sequence motif first identified in the paired (PRD) and gooseberry (GSB) homeodomain proteins from *Drosophila* (Triesman et al., *Genes Dev.* 5:594-604, 1991). The PRD box is also able to bind DNA in the absence of the homeodomain. LIM-domain proteins can be nuclear, cytoplasmic, or can shuttle between compartments. In the animal systems, several important LIM proteins have been shown to be associated with the

cytoskeleton, having a role in adhesion-plaque and actin-microfilament organization. Among nuclear LIM proteins, the LIM homeodomain proteins form a major subfamily with important functions in cell lineage determination and pattern formation during animal development.

The AP2 (APETALA2) and EREBPs (ethylene-responsive element binding proteins) are the prototypic members of a family of transcription factors unique to plants, whose distinguishing characteristic is that they contain the so-called AP2 DNA-binding domain. AP2/EREBP genes form a large multigene family, and they play a variety of roles throughout the plant life cycle: from being key regulators of several developmental processes, like floral organ identity determination or control of leaf epidermal cell identity, to forming part of the mechanisms used by plants to respond to various types of biotic and environmental stress. In *Arabidopsis thaliana*, the homeotic gene *APETALA2* (*AP2*) has been shown to control three salient processes during development: (1) the specification of flower organ identity and the regulation of floral organogenesis (Jofuku et al., *Plant Cell* 6:1211-1225, 1994); (2) establishment of flower meristem identity (Irish and Sussex, *Plant Cell* 2[8]:741-753, 1990); and (3) the temporal and spatial regulation of flower homeotic gene activity (Drews et al., *Cell* 65[6]:991-1002, 1991). DNA sequence analysis suggests that AP2 encodes a theoretical polypeptide of 432 aa, with a distinct 68 aa repeated motif termed the AP2 domain. This domain has been shown to be essential for AP2 functions and contains within the 68 aa, an eighteen amino acid core region that is predicted to form an amphipathic α-helix (Jofuku et al., *Plant Cell* 6:1211-1225, 1994). Ap2-like domain-containing transcription factors have been also been identified in both *Arabidopsis thaliana* (Okamuro et al., *Proc. Natl. Acad. Sci. USA* 94:7076-7081, 1997) and in tobacco with the identification of the ethylene responsive element binding proteins (EREBPs) (Ohme-Takagi and Shinshi, *Plant Cell* 7[2]:173-182, 1995). In *Arabidopsis*, these RAP2 (related to AP2) genes encode two distinct subfamilies of AP2 domain containing proteins designated AP2-like and EREBP-like (Okamuro et al., *Proc. Natl. Acad. Sci. USA* 94:7076-7081, 1997). *In vitro* DNA binding has not been shown to date using the RAP2 proteins; however, based upon the presence of two highly conserved motifs YRG and RAYD within the AP2 domain, it has been proposed that binding DNA binding occurs in a manner similar to that of AP2 proteins.

Zinc finger domains of the type Cys_2His_2 appear to represent the most abundant DNA binding motif in eukaryotic transcription factors, with several thousand being identified to date (Berg and Shi, *Science* 271[5252]:1081-1085, 1996). A structural role for zinc in transcription factors was initially proposed in 1983 for the transcription factor IIIA (TFIIIA) (Hanas et al., *J Biol. Chem.* 258[23]:14120-14125, 1983). The Cys_2His_2 Zinc finger domains are characterized by tandem arrays of sequences of C-x(2,4)-C-x(3)-[LIVMFYWC]-x(8)-H-x(3,5)-H (where X represents a variable amino acid). Structurally, the zinc finger consists of two antiparallel β strands followed by an α helix (Lee et al., *Science* 245[4918]:635-637, 1989). This structural arrangement allows for the cysteine and histidine side chains to coordinate the zinc with the three other conserved residues forming the hydrophobic core adjacent to the metal coordination unit (Berg and Shi, *Science* 271[5252]:1081-1085, 1996). Many proteins possessing a Cys_2His_2 domain have been shown to interact with DNA in a sequence-specific manner. Crystal structure analysis of the mouse transcription factor Zif268 bound to a specific DNA target indicates that the zinc fingers in the protein/DNA complex reside in the major groove of the double helix and interacts with the DNA bases through amino acid side chains referred to as the contact residues (Pavletich and Pabo, *Science* 252[5007]:809-817, 1991). The orientations of the zinc finger domains with respect to the DNA are usually identical, with each domain contacting a contiguous 3-base pair subsite, the majority of which are directed to one strand. There are few interdomain interactions and the DNA recognition by each zinc finger appears to be largely independent of the other domains (Berg and Shi, *Science* 271[5252]:1081-1085, 1996).

The CCAAT-box element identified by Gelinas et al. (*Nature* 313[6000]:323-325, 1985) has been shown to occur between 80 bp and 300 bp from the transcription start site and may operate in either orientation, with possible cooperative interactions with multiple boxes (Tasanen et al., *J Biol. Chem.* 267[16]:11513-11519, 1992); or other conserved motifs (Muro et al., *J. Biol. Chem.* 267[18]:12767-12774, 1992; Rieping and Schoffl, *Mol. Gen. Genet.* 231[2]:226-232, 1992). CCAAT-box related motifs have been identified in a number of promoters in a variety of organisms including yeast (Hahn et al., Science 240[4850]:317-321, 1988), rat (Maity et al., *Proc. Natl. Acad. Sci. USA* 87[14]:5378-5382, 1990; Vuorio et al., *J. Biol. Chem.* 265[36]:22480-22486, 1990); and plants (Rieping and Schoffl, *Mol. Gen. Genet.* 231[2]:226-232, 1992; Kehoe et al., *Plant Cell* 6[8]:1123-1134, 1994). In both yeast

and vertebrates, a protein complex has been shown to bind to the CCAAT-motif. In yeast the complex consists of three proteins, known as HAP2, HAP3 and HAP5 (Pinkham and Guarente, *Mol. Cell. Biol.* 5[12]:3410-3416, 1985).

MADS box transcription factors interact with a conserved region of DNA known as the MADS box. All MADS box transcription factors contain a conserved DNA-binding/dimerization region, known as the MADS domain, which has been identified throughout the different kingdoms (Riechmann and Meyerowitz, *Biol. Chem.* 378[10]:1079-1101, 1997). Many of the MADS box genes isolated from plants are expressed primarily in floral meristems or floral organs, and are believed to play a role in either specifying inflorescence and floral meristem identity or in determining floral organ identity. One class of regulatory genes responsible for floral meristem identity and the pattern of meristem development includes the genes *APETALA1* (*AP1*), *APETALA2* (*AP2*), *CAULIFLOWER* (*CAL*), *LEAFY* (*LFY*) and *AGAMOUS* (*AG*) from *Arabidopsis thaliana*. Both *LFY* and *AP1* have been shown to encode putative transcription factors (Weigel et al., *Cell* 69:843-859, 1992), with *AP1* and *AG* each encoding putative transcription factors of the MADS box domain family (Yanofsky et al., *Nature* 346:35-39, 1990). Mutations in the *Lfy* gene have been shown to result in a partial conversion of flowers into infloresence shoots.

Summary of the Invention

Briefly, the present invention provides polynucleotides isolated from plants that encode transcription factors, together with polypeptides encoded by such polynucleotides. The isolated polynucleotides and polypeptides of the present invention may be usefully employed in the modification of gene expression in plants, since both tissue- and temporal-specific gene expression patterns have been shown to be governed by transcription factors during the natural development of a plant. The inventive polynucleotides and polypeptides may thus be employed in the manipulation of plant phenotypes.

In a first aspect, the present invention provides polynucleotides isolated from eucalyptus and pine which encode transcription factors, including transcription factors from the following families of regulatory proteins: bZIP, bZIP family of G-box binding factors; basic helix-loop-helix zipper (bHLH); homeotic/homeodomain/homeobox/MADS; homeodomain zipper (ZIP); LIM domain; AP2 and EREBs; zinc finger domains of type

Cys2His2; CCAAT box elements; and MYB. In specific embodiments, the isolated polynucleotides of the present invention comprise a DNA sequence selected from the group consisting of: (a) sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; (b) complements of the sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; (c) reverse complements of the sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; (d) reverse sequences of the sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; and (e) sequences having either 40%, 60%, 75%, 90% or 95% identity, as defined herein, to a sequence of (a) – (d).

In a further aspect, isolated polypeptides encoded by the inventive polynucleotides are provided. In specific embodiments, such polypeptides comprise an amino acid sequence selected from the group consisting of: (a) sequences provided in SEQ ID NOS: 592-1182, 1913-1930 and 2107-2278; and (b) polypeptides comprising sequences having either 60%, 75%, 90% or 95% identity, as defined herein, to a sequence of (a).

In another aspect, the present invention provides polypeptides isolated from eucalyptus and pine which comprise transcription factor DNA-binding domains. In specific embodiments, such polypeptides comprise an amino acid sequence selected from the group consisting of: (a) sequences provided in SEQ ID NOS: 2279-2293 and 2296-2368; and (b) sequences having either 60%, 75%, 90% or 95% identity, as defined herein, to a sequence of (a).

In a further aspect, the invention provides DNA constructs comprising a polynucleotide of the present invention, either alone, in combination with one or more other polynucleotides disclosed herein, or in combination with one or more known DNA sequences, together with transformed cells comprising such constructs.

In specific embodiments, the inventive DNA constructs comprise, in the 5'-3' direction, a gene promoter sequence; an open reading frame coding for at least a functional portion of a polypeptide encoded by an inventive polynucleotide, or a variant thereof; and a gene termination sequence. The open reading frame may be orientated in either a sense or antisense direction. DNA constructs comprising an untranslated, or non-coding, region of a polynucleotide coding for a transcription factor polypeptide of the present invention or a nucleotide sequence complementary to an untranslated region, together with a gene promoter sequence and a gene termination sequence, are also provided. Preferably, the gene promoter

and termination sequences are functional in a host plant. Most preferably, the gene promoter and termination sequences are those of the original genes but others generally used in the art, such as the Cauliflower Mosaic Virus (CMV) promoter, with or without enhancers such as the Kozak sequence or Omega enhancer, and *Agrobacterium tumefaciens* nopalin synthase terminator may be usefully employed in the present invention. Tissue-specific promoters may be employed in order to target expression to one or more desired tissues. The DNA construct may further include a marker for the identification of transformed cells.

In yet a further aspect, transgenic cells comprising the DNA constructs of the present invention are provided, together with organisms, such as plants, comprising such transgenic cells. Fruits, seeds, derivatives, progeny, propagules and other products of such transgenic plants are also contemplated and encompassed by the present invention. As used herein, the term "propagule" means any part of a plant that may be used in reproduction or propagation, sexual or asexual, including cuttings.

In yet another aspect, methods for modifying gene expression in a target organism are provided, such methods including stably incorporating into the genome of the organism a DNA construct of the present invention. In a preferred embodiment, the target organism is a plant, preferably a woody plant, more preferably selected from the group consisting of eucalyptus and pine species, and most preferably from the group consisting of *Eucalyptus grandis* and *Pinus radiata*. In a related aspect, a method for producing a target organism, such as a plant, having modified gene expression is provided, the method comprising transforming a plant cell with a DNA construct of the present invention to provide a transgenic cell and cultivating the transgenic cell under conditions conducive to regeneration and mature plant growth.

The present invention further provides methods for modifying the activity of a transcription factor in a target organism, such as a plant, comprising stably incorporating into the genome of the plant a DNA construct of the present invention. In a preferred embodiment, the target plant is a woody plant, preferably selected from the group consisting of eucalyptus and pine species, and most preferably from the group consisting of *Eucalyptus grandis* and *Pinus radiata*.

The above-mentioned and additional features of the present invention and the manner of obtaining them will become apparent, and the invention will be best understood by

reference to the following more detailed description. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

Detailed Description of the Invention

The present invention provides isolated polynucleotides that encode plant transcription factors, together with isolated polypeptides encoded by such polynucleotides. As discussed above, transcription factors are components of the cellular "transcription apparatus" and are involved in the regulation of gene expression. Transcription factors are known to play a critical role in the growth and development of plants, and in cellular responses to external stimuli, such as environmental factors and disease pathogens. Transformation of plants with polynucleotides that encode proteins involved the cellular transcription process may thus be employed to modify properties such as lignin deposition, flower development, and male and female sterility.

Using the methods and materials of the present invention, the amount of a specific transcription factor may be increased or reduced by incorporating additional copies of polynucleotides, or fragments of said polynucleotides, encoding the transcription factor into the genome of a target organism, such as a plant. Similarly, an increase or decrease in the amount of the transcription factor may be obtained by transforming the target plant with antisense copies of such genes.

In one embodiment, the present invention provides isolated polynucleotides encoding, or partially encoding, plant transcription factors that are involved in the regulation of gene expression. The polynucleotides of the present invention were isolated from forestry plant sources, namely from *Eucalyptus grandis* and *Pinus radiata*, but they may alternatively be synthesized using conventional synthesis techniques. In specific embodiments, isolated polynucleotides of the present invention comprise a sequence selected from the group consisting of sequences identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; complements of the sequences identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; reverse complements of the sequences identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; reverse sequences of the sequences identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; sequences comprising at least a specified number of contiguous residues (*x*-mers) of any of the above-mentioned polynucleotides; extended sequences corresponding

to any of the above polynucleotides; antisense sequences corresponding to any of the above polynucleotides; and variants of any of the above polynucleotides, as that term is described in this specification.

In another embodiment, the present invention provides isolated polypeptides encoded by the polynucleotides of SEQ ID NOS: 1-591, 1895-1912 and 1931-2106. In certain specific embodiments, such isolated polypeptides include a sequence selected from the group consisting of SEQ ID NOS: 592-1182, 1913-1930 and 2107-2278.

The inventive polynucleotides and polypeptides have demonstrated similarity to transformation factors that are known to be involved in regulation of transcription and/or expression in plants as shown below in Table 1.

TABLE 1

Transcription factor family	Polynucleotide SEQ ID NO:
Basic leucine zipper (bZIP)	133, 148, 194, 206, 246, 258, 261, 265, 279, 284, 285, 286, 290, 294, 303, 318, 331, 455, 470, 473, 497, 501, 512, 533, 538, 554, 558, 575, 1896-1899, 1938, 1939, 1950, 1958, 1959, 1961, 1963, 1969, 1973, 1981, 1983, 1989, 1991, 1998, 2002, 2004, 2021, 2022, 2025, 2028, 2029, 2033-2035, 2039, 2042, 2043, 2046, 2054, 2056, 2061, 2063, 2073, 2078, 2079, 2089, 2090, 2101, 2103, 2106
bZIP family of G-box binding factors	128, 136, 141, 142, 184, 202, 222, 244, 329, 541, 545
Basic helix-loop-helix zipper	157, 179, 223, 271, 274, 305, 317, 548, 563
Myb	138, 167, 214, 221, 232, 248, 252, 254, 255, 270, 276, 278, 280, 281, 282, 283, 292, 293, 315, 319, 328, 463, 483, 485, 486, 491, 492, 494, 502, 504, 507, 508, 510, 515, 518, 519, 520, 521, 527, 534, 536, 537, 540, 553, 559, 566, 572, 588, 1905, 1906, 1931, 1932, 1934-1936, 1940, 1948, 1949, 1951, 1953-1955, 1957, 1960, 1962, 1964-1968, 1974, 1975, 1977-1979, 1982, 1984-1988, 1992, 1994-1997, 2001, 2003, 2013-2015, 2024, 2026, 2027, 2030,

Transcription factor family	Polynucleotide SEQ ID NO:
	2032, 2036-2038, 2041, 2044, 2045, 2047-2049, 2051, 2052, 2057-2060, 2065, 2067, 2071, 2072, 2074-2077, 2080-2088, 2104, 2105
Homeotic/homeodomain/homeobox/ MADS	2, 3, 4, 7, 9, 10, 11, 12, 13, 17, 19, 25, 26, 27, 28, 29, 31, 32, 34, 35, 36, 37, 39, 40, 44, 45, 49, 50, 51, 52, 54, 55, 57, 60, 62, 63, 64, 65, 66, 69, 72, 74, 76, 77, 79, 82, 84, 88, 89, 92, 94, 96, 97, 98, 100, 102, 103, 104, 105, 106, 107, 108, 11, 112, 114, 116, 117, 123, 125, 127, 168, 185, 249, 250, 332, 333, 334, 336, 337, 338, 340, 341, 343, 344, 345, 346, 347, 348, 349, 350, 351, 353, 354, 355, 356, 357, 359, 360, 361, 362, 364, 365, 366, 367, 368, 370, 371, 372, 373, 374, 375, 376, 379, 380, 383, 384, 385, 386, 387, 389, 392, 393, 394, 398, 399, 400, 401, 402, 403, 406, 408, 409, 410, 412, 414, 416, 417, 418, 420, 422, 424, 425, 426, 475, 526, 529, 580, 591, 1901, 1902, 1937, 1941-1947, 1952, 1970-1972, 1976, 1980, 1990, 1993, 1999, 2000, 2006-2012, 2016-2020, 2023, 2031, 2040, 2050, 2053, 2055, 2062, 2064, 2066, 2068-2070, 2091-2100
Homeodomain zipper (HDZIP)	1, 5, 6, 14, 16, 20, 21, 22, 23, 30, 33, 41, 42, 47, 58, 59, 61, 68, 70, 71, 73, 75, 80, 86, 87, 90, 91, 93, 115, 119, 121, 126, 335, 339, 342, 352, 358, 363, 369, 377, 381, 388, 390, 396, 397, 415, 419, 421, 423, 2005, 2102
LIM domain	15, 18, 24, 43, 78, 81, 83, 198, 210, 225, 273, 378, 391, 433, 437, 450, 452
AP2 and EREBs	120, 124, 170, 171, 219, 220, 224, 226, 229, 230, 238, 242, 243, 245, 247, 256, 301, 320, 330, 432, 434, 435, 436, 445, 447, 451, 453, 454, 459, 466, 469, 476, 481, 490, 524, 546, 549, 570, 1895
Zinc finger domains of type Cys2His2	132, 146, 154, 180, 181, 182, 183, 191, 207, 227, 234, 288, 323, 324, 325, 326, 404, 535, 567, 584, 585, 586, 587, 589, 590
CCAAT box elements	155, 174, 266, 309, 431, 460, 484, 499, 542, 551, 574, 583
Other transcription factors	8, 38, 46, 48, 53, 56, 67, 85, 95, 99, 101,

Transcription factor family	Polynucleotide SEQ ID NO:
	109, 110, 113, 118, 122, 129, 130, 131, 134, 135, 137, 139, 140, 143, 1444, 145, 147, 149, 150, 151, 152, 153, 156, 158, 159, 160, 161, 162, 163, 164, 165, 166, 169, 172, 173, 175, 176, 177, 178, 186, 187, 188, 189, 190, 192, 193, 195, 196, 197, 199, 200, 201, 203, 204, 205, 208, 209, 211, 212, 213, 215, 216, 217, 218, 228, 231, 233, 235, 236, 237, 239, 240, 241, 251, 253, 257, 259, 260, 262, 263, 264, 267, 268, 269, 272, 275, 277, 287, 289, 291, 295, 296, 297, 298, 299, 300, 302, 304, 306, 307, 308, 310, 311, 312, 313, 314, 316, 321, 322, 327, 382, 395, 405, 407, 411, 413, 4127, 428, 429, 430, 438, 439, 440, 441, 442, 443, 444, 446, 449, 456, 457, 458, 461, 462, 464, 465, 467, 468, 471, 472, 474, 477, 478, 479, 480, 482, 487, 488, 489, 493, 495, 496, 498, 500, 505, 506, 509, 511, 513, 514, 516, 517, 522, 523, 525, 528, 530, 531, 532, 539, 543, 544, 547, 550, 552, 555, 556, 557, 560, 561, 562, 564, 565, 568, 569, 571, 573, 577, 578, 579, 581, 582, 448, 1183-1894, 1900, 1903, 1904, 1907, 1908-1912, 1933, 1956

The term "polynucleotide(s)," as used herein, means a single or double-stranded polymer of deoxyribonucleotide or ribonucleotide bases and includes DNA and corresponding RNA molecules, including HnRNA and mRNA molecules, both sense and anti-sense strands, and comprehends cDNA, genomic DNA and recombinant DNA, as well as wholly or partially synthesized polynucleotides. An HnRNA molecule contains introns and corresponds to a DNA molecule in a generally one-to-one manner. An mRNA molecule corresponds to an HnRNA and DNA molecule from which the introns have been excised. A polynucleotide may consist of an entire gene, or any portion thereof. Operable anti-sense polynucleotides may comprise a fragment of the corresponding polynucleotide, and the definition of "polynucleotide" therefore includes all such operable anti-sense fragments. Anti-sense polynucleotides and techniques involving anti-sense polynucleotides are well known in the art and are described, for example, in Robinson-Benion et al., "Antisense

techniques," *Methods in Enzymol.* 254[23]: 363-375, 1995; and Kawasaki et al., *Artific. Organs* 20[8]:836-848, 1996.

The definition of the terms "complement", "reverse complement" and "reverse sequence", as used herein, is best illustrated by the following example. For the sequence 5' AGGACC 3', the complement, reverse complement and reverse sequence are as follows:

complement	3' TCCTGG 5'
reverse complement	3' GGTCCT 5'
reverse sequence	5' CCAGGA 3'.

The term "polypeptide", as used herein, encompasses amino acid chains of any length including full length proteins, wherein amino acid residues are linked by covalent peptide bonds. Polypeptides of the present invention may be naturally purified products, or may be produced partially or wholly using recombinant techniques. The term "polypeptide encoded by a polynucleotide" as used herein, includes polypeptides encoded by a nucleotide sequence which includes the partial isolated DNA sequences of the present invention.

All of the polynucleotides and polypeptides described herein are isolated and purified, as those terms are commonly used in the art. Preferably, the polypeptides and polynucleotides are at least about 80% pure, more preferably at least about 90% pure, and most preferably at least about 99% pure.

Some of the polynucleotides of the present invention are "partial" sequences, in that they do not represent a full length gene encoding a full length polypeptide. Such partial sequences may be extended by analyzing and sequencing various DNA libraries using primers and/or probes and well known hybridization and/or PCR techniques. Partial sequences may be extended until an open reading frame encoding a polypeptide, a full length polynucleotide and/or gene capable of expressing a polypeptide, or another useful portion of the genome is identified. Such extended sequences, including full length polynucleotides and genes, are described as "corresponding to" a sequence identified as one of the sequences of SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, or a variant thereof, or a portion of one of the sequences of SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, or a variant thereof, when the extended polynucleotide comprises an identified sequence or its variant, or an identified contiguous portion (*x*-mer) of one of the sequences of SEQ ID NOS: 1-591, 1183-1912 and

1931-2106, or a variant thereof. Such extended polynucleotides may have a length of from about 50 to about 4,000 nucleic acids or base pairs, and preferably have a length of less than about 4,000 nucleic acids or base pairs, more preferably yet a length of less than about 3,000 nucleic acids or base pairs, more preferably yet a length of less than about 2,000 nucleic acids or base pairs. Under some circumstances, extended polynucleotides of the present invention may have a length of less than about 1,800 nucleic acids or base pairs, preferably less than about 1,600 nucleic acids or base pairs, more preferably less than about 1,400 nucleic acids or base pairs, more preferably yet less than about 1,200 nucleic acids or base pairs, and most preferably less than about 1,000 nucleic acids or base pairs.

Similarly, RNA sequences, reverse sequences, complementary sequences, antisense sequences, and the like, corresponding to the polynucleotides of the present invention, may be routinely ascertained and obtained using the cDNA sequences identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106.

The polynucleotides identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106 may contain open reading frames ("ORFs") or partial open reading frames encoding polypeptides. Open reading frames may be identified using techniques that are well known in the art. These techniques include, for example, analysis for the location of known start and stop codons, most likely reading frame identification based on codon frequencies, etc. Suitable tools and software for ORF analysis are available, for example, on the Internet at http://www.ncbi.nlm.nih.gov/gorf/gorf.html. Additionally, tools and software for ORF analysis, for example, including GeneWise, available from The Sanger Center, Wellcome Trust Genome Campus, Hinxton, Cambridge, CB10 1SA, United Kingdom; Diogenes, available from Computational Biology Centers, University of Minnesota, Academic Health Center, UMHG Box 43 Minneapolis MN 55455; and GRAIL, available from the Informatics Group, Oak Ridge National Laboratories, Oak Ridge, Tennessee TN, are suitable. Open reading frames and portions of open reading frames may be identified in the polynucleotides of the present invention. Once a partial open reading frame is identified, the polynucleotide may be extended in the area of the partial open reading frame using techniques that are well known in the art until the polynucleotide for the full open reading frame is identified. Thus, open reading frames encoding polypeptides may be identified using the polynucleotides of the present invention.

Once open reading frames are identified in the polynucleotides of the present invention, the open reading frames may be isolated and/or synthesized. Expressible DNA constructs comprising the open reading frames and suitable promoters, initiators, terminators, etc., which are well known in the art, may then be constructed. Such DNA constructs may be introduced into a host cell to express the polypeptide encoded by the open reading frame. Suitable host cells may include various prokaryotic and eukaryotic cells, including plant cells, mammalian cells, bacterial cells, algae and the like.

Polypeptides encoded by the polynucleotides of the present invention may be expressed and used in various assays to determine their biological activity. Such polypeptides may be used to raise antibodies, to isolate corresponding interacting proteins or other compounds, and to quantitatively determine levels of interacting proteins or other compounds.

As used herein, the term "variant" comprehends nucleotide or amino acid sequences different from the specifically identified sequences, wherein one or more nucleotides or amino acid residues is deleted, substituted, or added. Variants may be naturally occurring allelic variants, or non-naturally occurring variants. Variant sequences (polynucleotide or polypeptide) preferably exhibit at least 50%, more preferably at least 75%, more preferably at least 90% and most preferably at least 95% identity to a sequence of the present invention. The percentage identity is determined by aligning the two sequences to be compared as described below, determining the number of identical residues in the aligned portion, dividing that number by the total number of residues in the inventive (queried) sequence, and multiplying the result by 100. By way of illustration only, assume an inventive polynucleotide having 220 nucleotides has a hit to a polynucleotide sequence in the EMBL database having 520 nucleotides over a stretch of 23 nucleotides in the alignment produced by the BLASTN algorithm using the parameters described above. The 23 nucleotide region includes 21 identical nucleotides, one gap and one different nucleotide. The percentage identity of the inventive polynucleotide to the hit in the EMBL library is thus 21/220 times 100, or 9.5%. The polynucleotide sequence in the EMBL database is thus not a variant of the inventive polynucleotide.

Polynucleotide and polypeptide sequences may be aligned, and percentage of identical residues in a specified region may be determined against another polynucleotide or

polypeptide sequence, using computer algorithms that are publicly available. Two exemplary algorithms for aligning and identifying the similarity of polynucleotide sequences are the BLASTN and FASTA algorithms. Polynucleotides may also be analyzed using the BLASTX algorithm, which compares the six-frame conceptual translation products of a nucleotide query sequence (both strands) against a protein sequence database. The similarity of polypeptide sequences may be examined using the BLASTP algorithm. The BLASTN, BLASTX and BLASTP programs are available on the NCBI anonymous FTP server (ftp://ncbi.nlm.nih.gov) under /blast/executables, and from the National Center for Biotechnology Information (NCBI) National Library of Medicine, Building 38A, Room 8N805, Bethesda, MD 20894, USA. The BLASTN algorithm Version 2.0.4 [Feb-24-1998] and Version 2.0.6 [Sept-16-1998], set to the default parameters described in the documentation and distributed with the algorithm, are preferred for use in the determination of polynucleotide variants according to the present invention. The BLASTP algorithm, is preferred for use in the determination of polypeptide variants according to the present invention. The use of the BLAST family of algorithms, including BLASTN, BLASTP, and BLASTX, is described at NCBI's Internet website at the URL http://www.ncbi.nlm.nih.gov/BLAST/newblast.html and in the publication of Altschul et al., *Nucleic Acids Res.* 25:3389-3402, 1997.

The computer algorithm FASTA is available on the Internet at the ftp site ftp://ftp.virginia.edu/pub/fasta/, and from the University of Virginia by contacting David Hudson, Assistance Provost for Research, University of Virginia, PO Box 9025, Charlottesville, VA. Version 2.0u4 [February 1996], set to the default parameters described in the documentation and distributed with the algorithm, may be used in the determination of variants according to the present invention. The use of the FASTA algorithm is described in Pearson and Lipman, *Proc. Natl. Acad. Sci. USA* 85:2444-2448, 1988; and Pearson, *Methods in Enzymol.* 183:63-98, 1990.

The following running parameters are preferred for determination of alignments and similarities using BLASTN that contribute to the E values and percentage identity for polynucleotide sequences: Unix running command: blastall -p blastn -d embldb -e 10 –G0 -E0 -r 1 -v 30 -b 30 -i queryseq –o results; the parameters are: -p Program Name [String]; -d Database [String]; -e Expectation value (E) [Real]; -G Cost to open a gap (zero invokes

default behavior) [Integer]; -E Cost to extend a gap (zero invokes default behavior) [Integer]; -r Reward for a nucleotide match (blastn only) [Integer]; -v Number of one-line descriptions (V) [Integer]; -b Number of alignments to show (B) [Integer]; -i Query File [File In]; and -o BLAST report Output File [File Out] Optional.

The following running parameters are preferred for determination of alignments and similarities using BLASTP that contribute to the E values and percentage identity of polypeptide sequences: blastall –p blastp –d swissprotdb –e 10 -G 0 -E 0 –v 30 –b 30 –i queryseq –o results; wherein the parameters are: -p Program Name [String]; -d Database [String]; -e Expectation value (E) [Real]; -G Cost to open a gap (zero invokes default behavior) [Integer]; -E Cost to extend a gap (zero invokes default behavior) [Integer]; -v Number of one-line descriptions (v) [Integer]; -b Number of alignments to show (b) [Integer]; -I Query File [File In]; -o BLAST report Output File [File Out] Optional.

The "hits" to one or more database sequences by a queried sequence produced by BLASTN, FASTA, BLASTP or a similar algorithm, align and identify similar portions of sequences. The hits are arranged in order of the degree of similarity and the length of sequence overlap. Hits to a database sequence generally represent an overlap over only a fraction of the sequence length of the queried sequence.

The BLASTN, FASTA and BLASTP algorithms also produce "Expect" values for alignments. The Expect value (E) indicates the number of hits one can "expect" to see over a certain number of contiguous sequences by chance when searching a database of a certain size. The Expect value is used as a significance threshold for determining whether the hit to a database, such as the preferred EMBL database, indicates true similarity. For example, an E value of 0.1 assigned to a polynucleotide hit is interpreted as meaning that in a database of the size of the EMBL database, one might expect to see 0.1 matches over the aligned portion of the sequence with a similar score simply by chance. By this criterion, the aligned and matched portions of the polynucleotide sequences then have a probability of 90% of being the same. For sequences having an E value of 0.01 or less over aligned and matched portions, the probability of finding a match by chance in the EMBL database is 1% or less using the BLASTN or FASTA algorithm.

According to one embodiment, "variant" polynucleotides and polypeptides, with reference to each of the polynucleotides and polypeptides of the present invention, preferably

comprise sequences having the same number or fewer nucleic or amino acids than each of the polynucleotides or polypeptides of the present invention and producing an E value of 0.01 or less when compared to the polynucleotide or polypeptide of the present invention. That is, a variant polynucleotide or polypeptide is any sequence that has at least a 99% probability of being the same as the polynucleotide or polypeptide of the present invention, measured as having an E value of 0.01 or less using the BLASTN, FASTA, or BLASTP algorithms set at parameters described above.

Alternatively, variant polynucleotides of the present invention hybridize to the polynucleotide sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, or complements, reverse sequences, or reverse complements of those sequences, under stringent conditions. As used herein, "stringent conditions" refers to prewashing in a solution of 6X SSC, 0.2% SDS; hybridizing at 65°C, 6X SSC, 0.2% SDS overnight; followed by two washes of 30 minutes each in 1X SSC, 0.1% SDS at 65°C and two washes of 30 minutes each in 0.2X SSC, 0.1% SDS at 65°C.

The present invention also encompasses polynucleotides that differ from the disclosed sequences but that, as a consequence of the degeneracy of the genetic code, encode a polypeptide which is the same as that encoded by a polynucleotide of the present invention. Thus, polynucleotides comprising sequences that differ from the polynucleotide sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; or complements, reverse sequences, or reverse complements thereof, as a result of conservative substitutions are contemplated by and encompassed within the present invention. Additionally, polynucleotides comprising sequences that differ from the polynucleotide sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, or complements, reverse complements or reverse sequences thereof, as a result of deletions and/or insertions totaling less than 10% of the total sequence length are also contemplated by and encompassed within the present invention. Similarly, polypeptides comprising sequences that differ from the polypeptide sequences recited in SEQ ID NOS: 592-1182, 1913-1930 and 2107-2278, as a result of amino acid substitutions, insertions, and/or deletions totaling less than 10% of the total sequence length are contemplated by and encompassed within the present invention. In certain embodiments, variants of the inventive polypeptides possess biological activities that are the same or similar to those of the inventive polypeptides. Such variant polypeptides

function as transcription factors and are thus capable of modifying gene expression in a plant. Similarly, variant polynucleotides may encode polypeptides that function as transcription factors.

In addition to having a specified percentage identity to an inventive polynucleotide or polypeptide sequence, variant polynucleotides and polypeptides preferably have additional structure and/or functional features in common with the inventive polynucleotide or polypeptide. Polypeptides having a specified degree of identity to a polypeptide of the present invention share a high degree of similarity in their primary structure and have substantially similar functional properties. In addition to sharing a high degree of similarity in their primary structure to polynucleotides of the present invention, polynucleotides having a specified degree of identity to, or capable of hybridizing to an inventive polynucleotide preferably have at least one of the following features: (i) they contain an open reading frame or partial open reading frame encoding a polypeptide having substantially the same functional properties as the polypeptide encoded by the inventive polynucleotide; or (ii) they contain identifiable domains in common.

Polynucleotides of the present invention also comprehend polynucleotides comprising at least a specified number of contiguous residues (x-mers) of any of the polynucleotides identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, complements, reverse sequences, and reverse complements of such sequences, and their variants. Similarly, polypeptides of the present invention comprehend polypeptides comprising at least a specified number of contiguous residues (x-mers) of any of the polypeptides identified as SEQ ID NOS: 592-1182, 1913-1930 and 2107-2278, and their variants. As used herein, the term "x-mer," with reference to a specific value of "x," refers to a sequence comprising at least a specified number ("x") of contiguous residues of any of the polynucleotides identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, or the polypeptides identified as SEQ ID NOS: 592-1182, 1913-1930 and 2107-2278. According to preferred embodiments, the value of x is preferably at least 20, more preferably at least 40, more preferably yet at least 60, and most preferably at least 80. Thus, polynucleotides and polypeptides of the present invention comprise a 20-mer, a 40-mer, a 60-mer, an 80-mer, a 100-mer, a 120-mer, a 150-mer, a 180-mer, a 220-mer, a 250-mer, a 300-mer, a 400-mer, a 500-mer or a 600-mer of a polynucleotide or polypeptide identified as SEQ ID NOS: 1-2368, and variants thereof.

The inventive polynucleotides may be isolated by high throughput sequencing of cDNA libraries prepared from *Eucalyptus grandis* and *Pinus radiata* as described below in Examples 1 and 2. Alternatively, oligonucleotides based on the sequences provided in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106 may be prepared as detailed below and used to identify positive clones in either cDNA or genomic DNA libraries from *Eucalyptus grandis* and *Pinus radiata* by means of hybridization or PCR techniques. Probes may be shorter than the sequences provided herein but should be at least about 10, preferably at least 15, and most preferably at least about 20 nucleotides in length. Hybridization and PCR techniques suitable for use with such oligonucleotides are well known in the art, and include those taught by Sambrook et al., *Ibid.* Positive clones may be analyzed by restriction enzyme digestion, DNA sequencing or the like.

The polynucleotides of the present invention may alternatively be synthesized using techniques that are well known in the art. The polynucleotides may be synthesized, for example, using automated oligonucleotide synthesizers (*e.g.*, Beckman Oligo 1000M DNA Synthesizer) to obtain polynucleotide segments of up to 50 or more nucleic acids. A plurality of such polynucleotide segments may then be ligated using standard DNA manipulation techniques that are well known in the art of molecular biology. One conventional and exemplary polynucleotide synthesis technique involves synthesis of a single stranded polynucleotide segment having, for example, 80 nucleic acids, and hybridizing that segment to a synthesized complementary 85 nucleic acid segment to produce a 5 nucleotide overhang. The next segment may then be synthesized in a similar fashion, with a 5 nucleotide overhang on the opposite strand. The "sticky" ends ensure proper ligation when the two portions are hybridized. In this way, a complete polynucleotide of the present invention may be synthesized entirely *in vitro*.

In certain embodiments, the DNA constructs of the present invention include an open reading frame coding for at least a functional portion of a polypeptide of the present invention or a variant thereof. As used herein, the "functional portion" of a polypeptide is that portion which contains the active site essential for regulating gene expression, *i.e.*, the portion of the molecule that is capable of binding to, or interacting with, the promoter of the gene to be expressed. The DNA-binding domain(s) for certain of the inventive polypeptides are identified below in Table 2. These DNA binding domains were identified using

PROSITE 15.0 pattern or profile sequences as listed in the PROSITE database. PROSITE is available at http://www.expasy.ch/sprot/prosite.html and its use is described in Hofman et al., *Nucleic Acids Res.* 27:215-219, 1999; and in Bairoch, *Nucleic Acids Res.* 20:Suppl.2013-2018, 1992.

TABLE 2

Polynucleotide SEQ ID NO:	**DNA-binding Domain(s) SEQ ID NO:**
1931	2283
1934	2284, 2285
1940	2288
1949	2293
1951	2279, 2280
1953	2296, 2297
1957	2298
1960	2301, 2302
1962	2307
1965	2308, 2309
1967	2281, 2282
1978	2320
1979	2321
1982	2322, 2323
1986	2324
1992	2335
1994	2336, 2337
1995	2338, 2339
1997	2340
2003	2286, 2287
2013	2289, 2290
2020	2291, 2292
2027	2299, 2300
2030	2303, 2304
2032	2305, 2306
2036	2310, 2311
2038	2312, 2313
2049	2314, 2315
2051	2316, 2317
2052	2318, 2319
2057	2325, 2326
2059	2327, 2328
2060	2329, 2330

Polynucleotide SEQ ID NO:	DNA-binding Domain(s) SEQ ID NO:
2065	2331, 2332
2067	2333, 2334
2074	2342, 2343
2075	2344, 2345
2076	2346, 2347
2077	2348, 2349
2080	2352
2081	2353
2082	2354
2083	2355, 2356
2084	2357, 2358
2085	2359, 2360
2086	2361, 2362
2087	2365, 2366
2088	2367, 2368
2104	2350, 2351
2105	2363, 2364

The functional portion of a polypeptide may also be determined by targeted mutagenesis and screening of modified protein products with protocols well known in the art (Solano et al., *J. Biol. Chem.* 272:2889-95, 1997). The active site will generally exhibit high substrate specificity. Portions of the inventive polypeptides may be generated by synthetic or recombinant means. Synthetic polypeptides having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may be generated using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. *See* Merrifield, *J. Am. Chem. Soc.* 85:2149-2154, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems, Inc. (Foster City, CA), and may be operated according to the manufacturer's instructions.

An open reading frame may be inserted in the DNA construct in a sense or antisense orientation, such that transformation of a target plant with the DNA construct will lead to a change in the amount of polypeptide compared to the wild-type plant. Transformation with a DNA construct comprising an open reading frame in a sense orientation will generally result

in over-expression of the selected gene, while transformation with a DNA construct comprising an open reading frame in an antisense orientation will generally result in reduced expression of the selected gene. A population of plants transformed with a DNA construct comprising an open reading frame of the present invention in either a sense or antisense orientation may be screened for increased or reduced expression of the gene in question using techniques well known to those of skill in the art, and plants having the desired phenotypes may thus be isolated.

Alternatively, expression of a gene encoding a plant transcription factor may be inhibited by inserting a portion of an open reading frame of the present invention, in either sense or antisense orientation, in the DNA construct. Such portions need not be full-length but preferably comprise at least 25 and more preferably at least 50 residues of an inventive DNA sequence. A much longer portion or even the full length DNA corresponding to the complete open reading frame may be employed. The portion of the open reading frame does not need to be precisely the same as the endogenous sequence, provided that there is sufficient sequence similarity to achieve inhibition of the target gene. Thus a sequence derived from one species may be used to inhibit expression of a gene in a different species. A population of plants transformed with a genetic construct comprising an open reading frame of the present invention in either a sense or antisense orientation may be screened for increased or reduced expression of the gene in question using techniques well known to those of skill in the art, and plants having the desired phenotypes may thus be isolated.

In another embodiment, the inventive DNA constructs comprise a DNA sequence including an untranslated, or non-coding, region of a gene coding for a polypeptide of the present invention, or a DNA sequence complementary to such an untranslated region. Examples of untranslated regions which may be usefully employed in such constructs include introns and 5'-untranslated leader sequences. Transformation of a target plant with such a DNA construct may lead to a reduction in the amount of the polypeptide expressed in the plant by the process of cosuppression, in a manner similar to that discussed, for example, by Napoli et al. (*Plant Cell* 2:279-290, 1990), and de Carvalho Niebel et al. (*Plant Cell* 7:347-358, 1995).

Alternatively, regulation of polypeptide expression can be achieved by inserting appropriate sequences or subsequences (*e.g.* DNA or RNA) in ribozyme constructs

(McIntyre and Manners, *Transgenic Res.* 5[4]:257-262, 1996). Ribozymes are synthetic RNA molecules that comprise a hybridizing region complementary to two regions, each of which comprises at least 5 contiguous nucleotides in a mRNA molecule encoded by one of the inventive polynucleotides. Ribozymes possess highly specific endonuclease activity, which autocatalytically cleaves the mRNA.

The DNA constructs of the present invention further comprise a gene promoter sequence and a gene termination sequence, operably linked to the DNA sequence to be transcribed, which control expression of the gene. The gene promoter sequence is generally positioned at the 5' end of the DNA sequence to be transcribed, and is employed to initiate transcription of the DNA sequence. Gene promoter sequences are generally found in the 5' untranslated region of a gene but they may exist downstream of the open reading frame, in introns (Luehrsen, *Mol. Gen. Genet.* 225:81-93, 1991) or in the coding region, as for example in a plant defence gene (Douglas et al., *EMBO J.* 10:1767-1775, 1991). When the construct includes an open reading frame in a sense orientation, the gene promoter sequence also initiates translation of the open reading frame. For DNA constructs comprising either an open reading frame in an antisense orientation or an untranslated region, the gene promoter sequence may consist only of a transcription initiation site having a RNA polymerase binding site.

A variety of gene promoter sequences which may be usefully employed in the DNA constructs of the present invention are well known in the art. The gene promoter sequence, and also the gene termination sequence, may be endogenous to the target plant host or may be exogenous, provided the promoter is functional in the target host. For example, the promoter and termination sequences may be from other plant species, plant viruses, bacterial plasmids and the like. Preferably, gene promoter and termination sequences are from the inventive sequences themselves.

Factors influencing the choice of promoter include the desired tissue specificity of the construct, and the timing of transcription and translation. For example, constitutive promoters, such as the 35S Cauliflower Mosaic Virus (CaMV 35S) promoter, will affect the activity of the enzyme in all parts of the plant. Use of a tissue specific promoter will result in production of the desired sense or antisense RNA only in the tissue of interest. With DNA constructs employing inducible gene promoter sequences, the rate of RNA polymerase

binding and initiation can be modulated by external stimuli, such as light, heat, anaerobic stress, alteration in nutrient conditions and the like. Temporally regulated promoters can be employed to effect modulation of the rate of RNA polymerase binding and initiation at a specific time during development of a transformed cell. Preferably, the original promoters from the enzyme gene in question, or promoters from a specific tissue-targeted gene in the organism to be transformed, such as eucalyptus or pine are used. Other examples of gene promoters which may be usefully employed in the present invention include mannopine synthase (mas), octopine synthase (ocs) and those reviewed by Chua et al. (*Science* 244:174-181, 1989).

The gene termination sequence, which is located 3' to the DNA sequence to be transcribed, may come from the same gene as the gene promoter sequence or may be from a different gene. Many gene termination sequences known in the art may be usefully employed in the present invention, such as the 3' end of the *Agrobacterium tumefaciens* nopaline synthase gene. However, preferred gene terminator sequences are those from the original gene or from the target species to be transformed.

The DNA constructs of the present invention may also contain a selection marker that is effective in cells of the target organism, such as a plant, to allow for the detection of transformed cells containing the inventive construct. Such markers, which are well known in the art, typically confer resistance to one or more toxins. One example of such a marker is the NPTII gene whose expression results in resistance to kanamycin or hygromycin, antibiotics which are usually toxic to plant cells at a moderate concentration (Rogers et al., *in* Weissbach, A and Weissbach H, eds., *Methods for Plant Molecular Biology*, Academic Press Inc.: San Diego, CA, 1988). Transformed cells can thus be identified by their ability to grow in media containing the antibiotic in question. Alternatively, the presence of the desired construct in transformed cells can be determined by means of other techniques well known in the art, such as Southern and Western blots.

A transcription initiation site is additionally included in the DNA construct when the sequence to be transcribed lacks such a site.

Techniques for operatively linking the components of the inventive DNA constructs are well known in the art and include the use of synthetic linkers containing one or more restriction endonuclease sites as described, for example, by Sambrook et al., (*Molecular*

cloning: a laboratory manual, CSHL Press: Cold Spring Harbor, NY, 1989). The DNA construct of the present invention may be linked to a vector having at least one replication system, for example *E. coli*, whereby after each manipulation, the resulting construct can be cloned and sequenced and the correctness of the manipulation determined.

The DNA constructs of the present invention may be used to transform a variety of target organisms including, but not limited to, plants. Plants which may be transformed using the inventive constructs include both monocotyledonous angiosperms (*e.g.*, grasses, corn, grains, oat, wheat and barley); and dicotyledonous angiosperms (*e.g., Arabidopsis*, tobacco, legumes, alfalfa, oaks, eucalyptus, maple); and Gymnosperms (*e.g.*, Scots pine (Aronen, *Finnish Forest Res. Papers*, Vol. 595, 1996); white spruce (Ellis et al., *Biotechnology* 11:84-89, 1993); and larch (Huang et al., *In Vitro Cell* 27:201-207, 1991). In a preferred embodiment, the inventive DNA constructs are employed to transform woody plants, herein defined as a tree or shrub whose stem lives for a number of years and increases in diameter each year by the addition of woody tissue. Preferably the target plant is selected from the group consisting of eucalyptus and pine species, most preferably from the group consisting of *Eucalyptus grandis* and *Pinus radiata*. Other species which may be usefully transformed with the DNA constructs of the present invention include, but are not limited to: pines such as *Pinus banksiana, Pinus brutia, Pinus caribaea, Pinus clausa, Pinus contorta, Pinus coulteri, Pinus echinata, Pinus eldarica, Pinus ellioti, Pinus jeffreyi, Pinus lambertiana, Pinus monticola, Pinus nigra, Pinus palustrus, Pinus pinaster, Pinus ponderosa, Pinus resinosa, Pinus rigida, Pinus serotina, Pinus strobus, Pinus sylvestris, Pinus taeda, Pinus virginiana*; other gymnosperms, such as *Abies amabilis, Abies balsamea, Abies concolor, Abies grandis, Abies lasiocarpa, Abies magnifica, Abies procera, Chamaecyparis lawsoniona, Chamaecyparis nootkatensis, Chamaecyparis thyoides, Huniperus virginiana, Larix decidua, Larix laricina, Larix leptolepis, Larix occidentalis, Larix siberica, Libocedrus decurrens, Picea abies, Picea engelmanni, Picea glauca, Picea mariana, Picea pungens, Picea rubens, Picea sitchensis, Pseudotsuga menziesii, Sequoia gigantea, Sequoia sempervirens, Taxodium distichum, Tsuga canadensis, Tsuga heterophylla, Tsuga mertensiana, Thuja occidentalis, Thuja plicata*; and Eucalypts, such as *Eucalyptus alba, Eucalyptus bancroftii, Eucalyptus botyroides, Eucalyptus bridgesiana, Eucalyptus calophylla, Eucalyptus camaldulensis, Eucalyptus citriodora, Eucalyptus*

cladocalyx, Eucalyptus coccifera, Eucalyptus curtisii, Eucalyptus dalrympleana, Eucalyptus deglupta, Eucalyptus delagatensis, Eucalyptus diversicolor, Eucalyptus dunnii, Eucalyptus ficifolia, Eucalyptus globulus, Eucalyptus gomphocephala, Eucalyptus gunnii, Eucalyptus henryi, Eucalyptus laevopinea, Eucalyptus macarthurii, Eucalyptus macrorhyncha, Eucalyptus maculata, Eucalyptus marginata, Eucalyptus megacarpa, Eucalyptus melliodora, Eucalyptus nicholii, Eucalyptus nitens, Eucalyptus nova-anglica, Eucalyptus obliqua, Eucalyptus obtusiflora, Eucalyptus oreades, Eucalyptus pauciflora, Eucalyptus polybractea, Eucalyptus regnans, Eucalyptus resinifera, Eucalyptus robusta, Eucalyptus rudis, Eucalyptus saligna, Eucalyptus sideroxylon, Eucalyptus stuartiana, Eucalyptus tereticornis, Eucalyptus torelliana, Eucalyptus urnigera, Eucalyptus urophylla, Eucalyptus viminalis, Eucalyptus viridis, Eucalyptus wandoo and *Eucalyptus youmanni*; and hybrids of any of these species.

Techniques for stably incorporating DNA constructs into the genome of target plants are well known in the art and include *Agrobacterium tumefaciens* mediated introduction, electroporation, protoplast fusion, injection into reproductive organs, injection into immature embryos, high velocity projectile introduction and the like. The choice of technique will depend upon the target plant to be transformed. For example, dicotyledonous plants and certain monocots and gymnosperms may be transformed by *Agrobacterium* Ti plasmid technology, as described, for example by Bevan (*Nucleic Acids Res*. 12:8711-8721, 1984). Targets for the introduction of the DNA constructs of the present invention include tissues, such as leaf tissue, dissociated cells, protoplasts, seeds, embryos, meristematic regions; cotyledons, hypocotyls, and the like. The preferred method for transforming eucalyptus and pine is a biolistic method using pollen (*see*, for example, Aronen, in *Finnish Forest Res. Papers* 595:53, 1996) or easily regenerable embryonic tissues.

Once the cells are transformed, cells having the inventive DNA construct incorporated in their genome may be selected by means of a marker, such as the kanamycin resistance marker discussed above. Transgenic cells may then be cultured in an appropriate medium to regenerate whole plants, using techniques well known in the art. In the case of protoplasts, the cell wall is allowed to reform under appropriate osmotic conditions. In the case of seeds or embryos, an appropriate germination or callus initiation medium is employed. For explants, an appropriate regeneration medium is used. Regeneration of plants is well established for many species. For a review of regeneration of forest trees see Dunstan

et al., "Somatic embryogenesis in woody plants," *in* Thorpe TA, ed., *In vitro embryogenesis of plants* (Current Plant Science and Biotechnology in Agriculture, 20[12]:471-540, 1995. Specific protocols for the regeneration of spruce are discussed by Roberts et al. ("Somatic embryogenesis of spruce," *in* Redenbaugh K, ed., *Synseed: applications of synthetic seed to crop improvement,* CRC Press: 23:427-449, 1993). Transformed plants having the desired phenotype may be selected using techniques well known in the art. The resulting transformed plants may be reproduced sexually or asexually, using methods well known in the art, to give successive generations of transgenic plants.

As discussed above, the production of RNA in target cells can be controlled by choice of the promoter sequence, or by selecting the number of functional copies or the site of integration of the DNA sequences incorporated into the genome of the target host. A target organism may be transformed with more than one DNA construct of the present invention, thereby modulating the activity of more than one transcription factor, for example affecting gene expression in more than one tissue, or at more than one time in the development of the target organism. Similarly, a DNA construct may be assembled containing more than one open reading frame coding for a polypeptide of the present invention or more than one untranslated region of a gene coding for such a polypeptide. The polynucleotides of the present inventive may also be employed in combination with other known sequences encoding transcription factors.

Polynucleotide probes and primers complementary to and/or corresponding to SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, and variants of those sequences, are also comprehended by the present invention. Such oligonucleotide probes and primers are substantially complementary to the polynucleotide of interest. As used herein, the term "oligonucleotide" refers to a relatively short segment of a polynucleotide sequence, generally comprising between 6 and 60 nucleotides, and comprehends both probes for use in hybridization assays and primers for use in the amplification of DNA by polymerase chain reaction. An oligonucleotide probe or primer is described as "corresponding to" a polynucleotide of the present invention, including one of the sequences set out as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, or a variant, if the oligonucleotide probe or primer, or its complement, is contained within one of the sequences set out as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, or a variant of one of the specified sequences.

Two single stranded sequences are said to be substantially complementary when the nucleotides of one strand, optimally aligned and compared, with the appropriate nucleotide insertions and/or deletions, pair with at least 80%, preferably at least 90% to 95%, and more preferably at least 98% to 100%, of the nucleotides of the other strand. Alternatively, substantial complementarity exists when a first DNA strand will selectively hybridize to a second DNA strand under stringent hybridization conditions. Stringent hybridization conditions for determining complementarity include salt conditions of less than about 1 M, more usually less than about 500 mM, and preferably less than about 200 mM. Hybridization temperatures can be as low as 5°C, but are generally greater than about 22°C, more preferably greater than about 30°C, and most preferably greater than about 37°C. Longer DNA fragments may require higher hybridization temperatures for specific hybridization. Since the stringency of hybridization may be affected by other factors such as probe composition, presence of organic solvents and extent of base mismatching, the combination of parameters is more important than the absolute measure of any one alone. The DNA from plants or samples or products containing plant material can be either genomic DNA or DNA derived by preparing cDNA from the RNA present in the sample.

In addition to DNA-DNA hybridization, DNA-RNA or RNA-RNA hybridization assays are also possible. In the first case, the mRNA from expressed genes would then be detected instead of genomic DNA or cDNA derived from mRNA of the sample. In the second case, RNA probes could be used. In addition, artificial analogs of DNA hybridizing specifically to target sequences could also be used.

In specific embodiments, the oligonucleotide probes and/or primers comprise at least about 6 contiguous residues, more preferably at least about 10 contiguous residues, and most preferably at least about 20 contiguous residues complementary to a polynucleotide sequence of the present invention. Probes and primers of the present invention may be from about 8 to 100 base pairs in length or, preferably from about 10 to 50 base pairs in length or, more preferably from about 15 to 40 base pairs in length. The probes can be easily selected using procedures well known in the art, taking into account DNA-DNA hybridization stringencies, annealing and melting temperatures, and potential for formation of loops and other factors, which are well known in the art. Tools and software suitable for designing probes, and especially suitable for designing PCR primers, are available on the Internet, for example, at

URL http://www.horizonpress.com/pcr/. A software program suitable for designing probes, and especially for designing PCR primers, is available from Premier Biosoft International, 3786 Corina Way, Palo Alto, CA 94303-4504. Preferred techniques for designing PCR primers are also disclosed in Dieffenbach and Dyksler, *PCR primer: a laboratory manual*, CSHL Press: Cold Spring Harbor, NY, 1995.

A plurality of oligonucleotide probes or primers corresponding to a polynucleotide of the present invention may be provided in a kit form. Such kits generally comprise multiple DNA or oligonucleotide probes, each probe being specific for a polynucleotide sequence. Kits of the present invention may comprise one or more probes or primers corresponding to a polynucleotide of the present invention, including a polynucleotide sequence identified in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106.

In one embodiment useful for high-throughput assays, the oligonucleotide probe kits of the present invention comprise multiple probes in an array format, wherein each probe is immobilized in a predefined, spatially addressable location on the surface of a solid substrate. Array formats which may be usefully employed in the present invention are disclosed, for example, in U.S. Patents No. 5,412,087, 5,545,531, and PCT Publication No. WO 95/00530, the disclosures of which are hereby incorporated by reference.

The significance of high-throughput screening systems is apparent for applications such as plant breeding and quality control operations in which there is a need to identify large numbers of seed lots and plant seedlings, to examine samples or products for unwanted plant materials, to identify plants or samples or products containing plant material for quarantine purposes etc. or to ascertain the true origin of plants or samples or products containing plant material. Screening for the presence or absence of polynucleotides of the present invention used as identifiers for tagging plants is valuable for later detecting the amount of gene flow in plant breeding, introgression of genes via dispersed pollen, etc.

In this manner, oligonucleotide probe kits of the present invention may be employed to examine the presence/absence (or relative amounts in case of mixtures) of polynucleotides of the present invention in different samples or products containing different materials rapidly and in a cost-effective manner. Examples of plant species that may be examined using the present invention, include forestry species, such as pine and eucalyptus species,

other tree species, agricultural plants including crop and forage plants, and horticultural plants.

Another aspect of the present invention involves collections of polynucleotides of the present invention. A collection of polynucleotides of the present invention, particularly the polynucleotides identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, and variants and *x*-mers thereof, may be recorded and/or stored on a storage medium and subsequently accessed for purposes of analysis, comparison, etc. Suitable storage media include magnetic media such as magnetic diskettes, magnetic tapes, CD-ROM storage media, optical storage media, and the like. Suitable storage media and methods for recording and storing information, as well as accessing information such as polynucleotide sequences recorded on such media, are well known in the art. The polynucleotide information stored on the storage medium is preferably computer-readable and may be used for analysis and comparison of the polynucleotide information.

Another aspect of the present invention thus involves storage medium on which are recorded a collection of the polynucleotides of the present invention, particularly a collection of the polynucleotides identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, and variants thereof, as well as *x*-mers of the polynucleotides of SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, and extended sequences, probes and primers comprising or corresponding to a polynucleotide of SEQ ID NOS: 1-591, 1183-1912 and 1931-2106. According to one embodiment, the storage medium includes a collection of at least 20, preferably at least 50, more preferably at least 100, and most preferably at least 200 of the polynucleotides of the present invention, preferably the polynucleotides identified as SEQ ID NOS: 1-591, 1183-1912 and 1931-2106, or variants of such polynucleotides.

The following examples are offered by way of illustration and not by way of limitation.

EXAMPLE 1

Isolation and Characterization of cDNA Clones from *Eucalyptus grandis*

Nine *Eucalyptus grandis* cDNA expression libraries (prepared from either mature shoot buds, early wood phloem, floral tissue, leaf tissue (two independent libraries), feeder roots, structural roots, xylem or early wood xylem) were constructed and screened as follows.

Total RNA was extracted from the plant tissue using the protocol of Chang et al. (*Plant Molecular Biology Reporter* 11:113-116, 1993). mRNA was isolated from the total RNA preparation using either a Poly(A) Quik mRNA Isolation Kit (Stratagene, La Jolla, CA) or Dynal Beads Oligo $(dT)_{25}$ (Dynal, Skogen, Norway). A cDNA expression library was constructed from the purified mRNA by reverse transcriptase synthesis followed by insertion of the resulting cDNA clones in Lambda ZAP using a ZAP Express cDNA Synthesis Kit (Stratagene), according to the manufacturer's protocol. The resulting cDNAs were packaged using a Gigapack II Packaging Extract (Stratagene) using an aliquot (1 – 5 μl) from the 5 μl ligation reaction dependent upon the library. Mass excision of the library was done using XL1-Blue MRF' cells and XLOLR cells (Stratagene) with ExAssist helper phage (Stratagene). The excised phagemids were diluted with NZY broth (Gibco BRL, Gaithersburg, MD) and plated out onto LB-kanamycin agar plates containing X-gal and isopropylthio-beta-galactoside (IPTG).

Of the colonies plated and picked for DNA miniprep, 99% contained an insert suitable for sequencing. Positive colonies were cultured in NZY broth with kanamycin and cDNA was purified by means of alkaline lysis and polyethylene glycol (PEG) precipitation. Agarose gel at 1% was used to screen sequencing templates for chromosomal contamination. Dye primer sequences were prepared using a Turbo Catalyst 800 machine (Perkin Elmer/Applied Biosystems Division, Foster City, CA) according to the manufacturer's protocol.

DNA sequence for positive clones was obtained using a Perkin Elmer/Applied Biosystems Division Prism 377 sequencer. cDNA clones were sequenced first from the 5' end and, in some cases, also from the 3' end. For some clones, internal sequence was obtained using either Exonuclease III deletion analysis, yielding a library of differentially sized subclones in pBK-CMV, or by direct sequencing using gene-specific primers designed to identified regions of the gene of interest.

The determined cDNA sequences were compared to known sequences in the EMBL database (up to mid-July 1999) using the computer algorithms FASTA and/or BLASTN.

Multiple alignments of redundant sequences were used to build up reliable consensus sequences. The determined cDNA sequences are provided in SEQ ID NOS: 1-331, 1183-1536, 1896-1901, 1905, 1906, 1908-1910, 1932-1968, 2001-2036, 2074-2079 and 2104. Based on similarity to known sequences from other plant species, the isolated DNA sequences were identified as encoding transcription factors, as detailed in Table 1 above. The predicted amino acid sequences corresponding to the DNA sequences of SEQ ID NOS: 1-331, 1896-1901, 1905, 1906, 1908, 1909, 1910, 1932-1968, 2001-2036, 2074-2079 and 2104 are provided in SEQ ID NOS: 592-922, 1914-1919, 1923, 1924, 1926-1928, 2108-2142, 2175-2210, 2247-2252 and 2276, respectively.

EXAMPLE 2

Isolation and Characterization of cDNA Clones from *Pinus radiata*

Fourteen *Pinus radiata* cDNA expression libraries (prepared from either shoot bud tissue, suspension cultured cells, early wood phloem (two independent libraries), fascicle meristem tissue, male strobilus, root (unknown lineage), feeder roots, structural roots, female strobilus, cone primordia, female receptive cones and xylem (two independent libraries)) were constructed and screened as described above in Example 1.

DNA sequence for positive clones was obtained using forward and reverse primers on a Perkin Elmer/Applied Biosystems Division Prism 377 sequencer and the determined sequences were compared to known sequences in the database as described above.

Based on similarity to known sequences from other plant species, the isolated DNA sequences (SEQ ID NOS: 332-591, 1537-1894, 1895, 1902-1904, 1907, 1911, 1912, 1931, 1969-2000, 2037-2073, 2080-2103, 2105 and 2106) were identified as encoding transcription factors as detailed above in Table 1. The predicted amino acid sequences corresponding to the DNA sequences of SEQ ID NOS: 332-591, 1895, 1902-1904, 1907, 1911, 1912, 1931, 1969-2000, 2037-2073, 2080-2103, 2105 and 2106 are provided in SEQ ID NOS: 923-1182, 1913, 1920-1922, 1925, 1929-1930, 2107, 2143-2174, 2211-2246, 2253-2275, 2277 and 2278, respectively.

EXAMPLE 3

Use of a Myb Transcription Factor Gene to Modify Gene Expression in Plants

Transformation of tobacco plants with a *Eucalyptus grandis* Myb transcription factor gene is performed as follows. DNA constructs comprising sense and anti-sense constructs containing a DNA sequence including the coding region of the Myb transcription factor of SEQ ID NO: 2076 are constructed and inserted into *Agrobacterium tumefaciens* by direct transformation using published methods (*see* An G, Ebert PR, Mitra A, Ha SB, "Binary vectors," *in* Gelvin SB and Schilperoort RA, eds., *Plant Molecular Biology Manual*, Kluwer Academic Publishers: Dordrecht, 1988). The constructs of sense DNAs are made by direct cloning from PBK-CMV plasmid by cloning cDNA insert into pART7 plasmid, which is then cut by NotI enzyme and 35S-Insert-OCS 3'UTR put into pART27 plant expression vector (*see* Gleave, *Plant Molecular Biology* 20:1203-1207, 1992). The presence and integrity of the transgenic constructs are verified by restriction digestion and DNA sequencing.

Tobacco (*Nicotiana tabacum* cv. Samsun) leaf sections are transformed with the sense and anti-sense constructs using the method of Horsch et al. (*Science* 227:1229-1231, 1985). *Arabidopsis thaliana* (ecotype: Columbia) whole plants are transformed with the sense and anti-sense constructs using either the vacuum infiltration (Bechtold et al., *C.R. Acad.* 316:1194-1199, 1992), or floral dip (Clough and Bent, *The Plant Journal* 16:735-743, 1998) procedures. Transformed plants containing the appropriate construct are verified using Southern blot experiments. Expression of the *Eucalyptus* Myb transcription factor gene in transformed plants is confirmed by isolating total RNA from each independent transformed plant line created with the Myb transcription factor gene sense and anti-sense constructs. The RNA samples are analysed in Northern blot experiments to determine the level of expression of the transgene in each transformed line. The expression level of the Myb transcription factor, encoded by the *Eucalyptus* Myb transcription factor gene and by the endogenous Myb transcription factor gene, for each transformed plant line created with the sense and anti-sense constructs is compared to that of wild-type control plants.

SEQ ID NOS: 1-2368 are set out in the attached Sequence Listing. The codes for nucleotide and amino acid sequences used in the attached Sequence Listing, including the symbols "n" and "Xaa", conform to WIPO Standard ST.25 (1998), Appendix 2, Table 1.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, changes and modifications can be carried out without departing from the scope of the invention which is intended to be limited only by the scope of the claims.

Claims:

1. An isolated polynucleotide comprising a sequence selected from the group consisting of: consisting of: (1) sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; (2) complements of the sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; (3) reverse complements of the sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; (4) reverse sequences of the sequences recited in SEQ ID NOS: 1-591, 1183-1912 and 1931-2106; (5) nucleotide sequences producing an Expectation ("E") value of 0.01 or less when compared to a sequence recited in (1) – (4) above; (6) nucleotide sequences having at least 50% identity to a nucleotide sequence recited in (1) – (4) above determined using computer algorithm BLASTN; (7) nucleotide sequences having at least 75% identity to a nucleotide sequence recited in (1) – (4) above determined using computer algorithm BLASTN; (8) nucleotide sequences having at least 90% identity to a nucleotide sequence recited in (1) – (4) above determined using computer algorithm BLASTN; (9) nucleotide sequences that hybridize to a sequence recited in (1) – (4) above under stringent hybridization conditions; (10) nucleotide sequences that are 200-mers of a sequence recited in (1) – (4) above; (11) nucleotide sequences that are 100-mers of a sequence recited in (1) – (4) above; (12) nucleotide sequences that are 40-mers of a sequence recited in (1) – (4) above; (13) nucleotide sequences that are 20-mers of a sequence recited in (1) – (4) above; and (14) nucleotide sequences that are degeneratively equivalent to a sequence recited in (1) – (4) above.
2. An oligonucleotide probe or primer comprising at least 10 contiguous residues complementary to 10 contiguous residues of a nucleotide sequence recited in claim 1.
3. An isolated polypeptide encoded by a polynucleotide according to claim 1.
4. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of: (a) sequences recited in SEQ ID NO: 592, 594-850, 852-930, 932-951, 953-1046, 1048-1182, 1913-1930, 2107-2293 and 2296-2368; (b) sequences having at least 60% identity to a sequence of SEQ ID NO: 592, 594-850, 852-930, 932-951, 953-1046, 1048-1182, 1913-1930, 2107-2293 and 2296-2368; (c) sequences having at least 90% identity to a sequence of SEQ ID NO: 592, 594-850, 852-930, 932-951,

953-1046, 1048-1182, 1913-1930, 2107-2293 and 2296-2368; and (d) sequences having at least 95% identity to a sequence of SEQ ID NO: 592, 594-850, 852-930, 932-951, 953-1046, 1048-1182, 1913-1930, 2107-2293 and 2296-2368.

5. An isolated polynucleotide that encodes a polypeptide according to any one of claims 3 and 4.

6. A DNA construct comprising a polynucleotide according to any one of claims 1 and 5.

7. A transgenic cell comprising a DNA construct according to claim 6.

8. A DNA construct comprising, in the 5'-3' direction:
   (a) a gene promoter sequence,
   (b) an open reading frame coding for at least a functional portion of a polypeptide of any one of claims 3 and 4; and
   (c) a gene termination sequence.

9. The DNA construct of claim 8 wherein the open reading frame is in a sense orientation.

10. The DNA construct of claim 8 wherein the open reading frame is in an antisense orientation.

11. The DNA construct of claim 8 wherein the gene promoter sequence and gene termination sequences are functional in a plant host.

12. The DNA construct of claim 8 further comprising a marker for identification of transformed cells.

13. A DNA construct comprising, in the 5'-3' direction:
   (a) a gene promoter sequence,
   (b) an untranslated region of an isolated polynucleotide of any one of claims 1 and 5; and
   (c) a gene termination sequence.

14. The DNA construct of claim 13 wherein the untranslated region is in a sense orientation.

15. The DNA construct of claim 13 wherein the untranslated region is in an antisense orientation.

16. The DNA construct of claim 13 wherein the gene promoter sequence and gene termination sequences are functional in a plant host.

17. A transgenic plant cell comprising a DNA construct of any one of claims 8 and 13.

18. A plant comprising a transgenic plant cell according to claim 17, or fruit or seeds or propagules thereof.

19. The plant of claim 18 wherein the plant is a woody plant.

20. The plant of claim 19 wherein the plant is selected from the group consisting of eucalyptus, pine, acacia, poplar, sweetgum, teak and mahogany species

21. A method for modifying gene expression in a plant comprising stably incorporating into the genome of the plant a DNA construct according to any one of claims 8 and 13.

22. The method of claim 21, wherein the plant is a woody plant.

23. The method of claim 21, wherein the plant is selected from the group consisting of eucalyptus, pine, acacia, poplar, sweetgum, teak and mahogany species.

24. A method for producing a plant having modified gene expression comprising:
    (a) transforming a plant cell with a DNA construct according to any one of claims 8 and 13 to provide a transgenic cell; and
    (b) cultivating the transgenic cell under conditions conducive to regeneration and mature plant growth.

25. The method of claim 24 wherein the plant is a woody plant.

26. The method of claim 24 wherein the plant is selected from the group consisting of eucalyptus, pine, acacia, poplar, sweetgum, teak and mahogany species.

27. A method for modifying the activity of a polypeptide in a plant comprising stably incorporating into the genome of the plant a DNA construct according to any one of claims 8 and 13.

28. The method of claim 27 wherein the plant is a woody plant.

29. The method of claim 27 wherein the plant is selected from the group consisting of eucalyptus, pine, acacia, poplar, sweetgum, teak and mahogany species.

30. An isolated polypeptide comprising a DNA-binding domain, wherein the DNA-binding domain comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 2279-2293 and 2296-2368.

COMPOSITIONS AND METHODS FOR THE MODIFICATION OF GENE TRANSCRIPTION

Abstract of the Disclosure

Novel isolated polynucleotides that encode plant transcription factors are provided, together with DNA constructs comprising such polynucleotides. Methods for using such constructs in modulating the expression of endogenous and/or heterologous genes are also disclosed, together with transgenic plants comprising such constructs.

COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As the below-named inventors, we hereby declare that:

Our residences, post office addresses and citizenships are as stated below next to our names.

We believe we am the original and first inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled COMPOSITIONS AND METHODS FOR THE MODIFICATION OF GENE TRANSCRIPTION, the specification of which

[ ] is attached hereto.

[X] was filed on August 16, 2000 as Application No. 09/____________

We hereby state that we have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

We hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed: **PCT Patent Application No. PCT/US00/06112, filed March 9, 2000.**

We hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application: **U.S. Patent Application No. 09/266,513, filed March 11, 1999; U.S. Patent Application No. 60/149,485, filed August 18, 1999; and PCT Patent Application No. PCT/US00/06112, filed March 9, 2000.**

We hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Name	Reg. No.
Ann W. Speckman	31,881
Janet Sleath	37,007
Jim Klaniecki	38,207
Susan J. Friedman	38,457

Direct all telephone calls and correspondence to Janet Sleath at:

SPECKMAN LAW GROUP
1501 Western Avenue, Suite 100
Seattle, Washington 98101
Tel: (206) 382-1191

We hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first inventor: Marion Wood

Inventor's signature: ________________________ Date: ________________

Residence :

Citizenship :

Post Office address: Genesis Research & Development Corporation Limited
1 Fox Street
Parnell, New Zealand

Full name of third inventor: Michael A. Shenk

Inventor's signature: ______________________ Date: ______________

Residence :

Citizenship :

Post Office address: Genesis Research & Development Corporation Limited
1 Fox Street
Parnell, New Zealand

Full name of second inventor: Annette McGrath

Inventor's signature: ______________________ Date: ______________

Residence :

Citizenship :

Post Office address: Genesis Research & Development Corporation Limited
1 Fox Street
Parnell, New Zealand

Full name of fourth inventor: Matthew Glenn

Inventor's signature: ______________________ Date: ______________

Residence :

Citizenship :

Post Office address: Genesis Research & Development Corporation Limited
1 Fox Street
Parnell, New Zealand

CERTIFICATE OF EXPRESS MAILING

"Express Mail" Mailing Label No.: EJ663655227US

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. 1.10 on the date indicated below and is addressed to BOX NEW APP FEE, Assistant Commissioner for Patents, Washington, D. C. 20231.

Date of Deposit: August 16, 2000

Selena Whitaker-Paquiet

JC882 U.S. PTO 09/640211 08/16/00

Attorney Docket No. 11000.1021c1u
PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of **Marion Wood, Michael A. Shenk, Annette McGrath and Matthew Glenn**

Group Art Unit: Unassigned

Application No. : Unassigned

Filed : Herewith

For : **COMPOSITIONS AND METHODS FOR THE MODIFICATION OF GENE TRANSCRIPTION**

STATEMENT – SEQUENCE LISTING TRANSMITTAL

Assistant Commissioner for Patents
Washington D.C. 20231

Sir:

The undersigned verifies that, to the best of her knowledge, after making a comparison, the content of the accompanying paper sequence listing and computer readable sequence listing on CD-ROM is the same.

Respectfully submitted,

Janet Sleath

Janet Sleath
Registration No. 37,007

Date: August 16, 2000

SPECKMAN LAW GROUP
1501 Western Avenue, Suite 100
Seattle, Washington 98101
Telephone: 206.382.1191
Facsimile: 206.382.2669

SEQUENCE LISTING

<110> Wood, Marion
Shenk, Michael A.
McGrath, Annette
Glenn, Matthew

<120> Compositions and methods for the
modification of plant gene transcription.

<130> 11000.1021C1U

<160> 2368

<170> FastSEQ for Windows Version 3.0

<210> 1
<211> 396
<212> DNA
<213> Eucalyptus grandis

<400> 1
tctctctccg ttcccctctc tctctctctc tctctctctc tctagacaat aagggggcat 60
tcaaagctct gtgctttcca ccgaaaggac tccagcagaa aggactcgtc gtcatgggcg 120
agagagatga tctgggcttg agcttgagcc tgagcttccc tcagggtcac ctgcatcagc 180
agcagcagca gcagcagcag cagtccctgc agctgaacct catgccctcc ttggtcccgt 240
cctctgcttc gtctgctcaa tctgggttca atcttcagaa gcgctcctgc aacgacgcct 300
tcccttcttc ttcagatcgg aactccgagg cgcgatcgtt cctccggggg atcgacgtga 360
acagagagcc gtcggcgggg gcggcggcgg actacg 396

<210> 2
<211> 725
<212> DNA
<213> Eucalyptus grandis

<400> 2
ggacaaggca aggttggtgc aggaaactgg cttgcaatta aagcagataa acaactggtt 60
tatcaaccag aggaagagaa actggcacag taacccgtcc acctctactg tcctgaagag 120
caagcgcaaa aggtaattat attaagccag tgagtgaatt aacttgattc ttctagagct 180
tctcaccaac taaaaattca aaatgaagta atgcaggtga aaatagcagt gaccgcttca 240
tgtagattaa ggaaaattgt aaactaaact ccttccgagt cgtgcatgtg ctcatgatcc 300
agtggcacat atggttggtg gcaaatgaag cgcgaatttc ttttgattct gtagaggaag 360
agcctaacat agatgagaaa aatctgccca ctttctgctg ctgtaaagga accacaaact 420
aaattcggag ggcagatcca aaacttatac ccgcatcacg tggaagtcct ggaataaaga 480
ttgctgtctc gtaaattatg tgaaacgatt ctgctgcatc ggctgatggg tgtaattttt 540
gtttaccata ttcatatatg tgaataagta cagagaaggg ttgtgggtgt atagtacaat 600
agctctcgtt tagttccata cacgtatagt agatagagat tatagcatgt taggtgttgt 660
catttctact gtagtgtacg cttgtgaagc aaatgtagct tggtcttgat taacaaaaaa 720
aaaaa 725

<210> 3
<211> 875
<212> DNA
<213> Eucalyptus grandis

<400> 3
ctggagagcc actttggatc aggagcgttg agaccggccg tgagatactt aactatgacg 60
agtacgtgaa ggagttcaag gtcgaagccc ctagtgaggg ccggcccaag agatctatcg 120
aagcctcgag agagactggg gtcgtgttcg tcgacctccc ccgcctcgtg caaagtttca 180
tggacgtgaa tcaatggaag gaaatgtttc cttgcatgat ctcaaaggca gcaactgtgg 240
atgtggtttg cagcggtgaa ggtcccaaca gaaacggcgc cgtgcaattg atgttcgcag 300
agctgcaaat gctaacgcca atggtgccca cgagggaggt gtacttcatc agatactgca 360
agcagctcag cgcagagcag tgggccttag ttgatgtctc catcgaaaaa gtcgaagata 420
acatcgacgc ctctcttgtg aaatgcagga aacgcccctc cggctgcatc atcgaggata 480
aatccaacgg ccattgtaag gtaatctggg tagaacactt ggagtgccag aaaaccaccg 540
ttcatcccat gtaccgtacc atcgttaaca gcggcctagc ctttggcgca agacactgga 600
tgacgacact gcaagtccag tgcgagcggc tcgttttctt tatggcgact aatgttccaa 660
ccaaagattc gaatggtgtc gccacacttg caggaaggaa gagcattttg aggctggcac 720
agaggctgac acaaagcttt tgtcaggcca ttggagcatc gagctatcac agctggacca 780
aggtcccaac taaaactgga gaggacatta gggtggcttc taggaaaaat ctgaatgatc 840
ctggagagcc tcttggggtg atcctatgcg cagtt 875

<210> 4
<211> 78
<212> DNA
<213> Eucalyptus grandis

<400> 4
aatgcaggcg gtgatgaccg gctgtgactc tagcaacata gccgctctgc catccggttt 60
ctcgatcctg cccgatgg 78

<210> 5
<211> 791
<212> DNA
<213> Eucalyptus grandis

<400> 5
acaaaatggt ccaagcatgc ctccagtaca gccttttgtc cgagcagaga tgctccctag 60
tggctacttg gtacgtccat gtgaaggtgg tggttcaatc atacgcattg ttgatcactt 120
ggatctagag ccatggagtg tgcctgaagt actgcgacca ttgtatgagt cctccacaat 180
gcttgctcag aagacgacaa tggcagctct gcgacagctg aggcagatag ctcaggaagt 240
ttcacagcct aatgtttctg gctggggaag gcgacctgca gcacttagag ctcttagcca 300
gaggttaagc aggggattta atgaggctct taatggattt actgatgaag gatggtcgat 360
catggggaat gatggcattg atgatgtcac tattctcgtg aattcatccc ctgacaagct 420
aatgggattg aatctttcgt tttcaaatgg attcccagct gtgagcaacg ctgttctatg 480
cgcgagggcc tctatgctct tgcagaatgt gcctcctgca gtcctccttc gcttccttcg 540
tgagcacagg tcagaatggg ctgacaacag tattgatgca tactcagccg cagcagttaa 600
agttggttcc tgtgctttac ctggatcacg tattgggagt ttcgggggtc aggttatact 660
tccacttgct catactattg agcatgaaga gttcttggag gtcatcaaat tagaaggtat 720
gggccactct ccagaagatg ccttaatgcc tagagatata tttttcctgc aaatgtgcag 780
tggagtggat g 791

<210> 6
<211> 403
<212> DNA
<213> Eucalyptus grandis

<400> 6
gtgccctatc gattcgggcc gctccttcga cacgagcctt agtctcggtt taggctgtta 60
tggggatcct gaagatcacg agatcaagat caagaaaccg ctcgcgaagc tcagtggtaa 120
ctccacgtgc ctcacgatag gcttgcccgg cggggaggcg tgcgggctgg gatccgcgag 180
tggggacgag gtcaggaaca tcccgagcag gtcggcatcg tcgttctcaa actcaagcag 240

tgcgaagagg gagaaggcgg agcaaggaga ggaagaagcg gttgagagag ggacgggctc 300
gccgagggcg actatcaata tcgaagatga agatgagttc agccccagga agaagctcag 360
gctttctaaa gcacaaagtt ccattttgga agagatgctt caa 403

<210> 7
<211> 955
<212> DNA
<213> Eucalyptus grandis

<400> 7
gaaaattcaa tacgctacct tgcttcgacc gaagtcctct ccctctctct ctctctagac 60
atattcaaat ccgattctct ctctagcctc cccgtcgccg ctgtcgtcgc cggtcgccgt 120
cgccgtcgca gagccgcgga ggaggagagg gagagagaga gagagagcgg agagacgccg 180
gtgcggggat ggggcagcag tcgctgatct acagcttcgt ggcgcggggg acggtgatcc 240
tggcggacta cacggagttc accggcaact tcaccagcgt cgccttccag tgcctccaga 300
agctccccgc caccaacaac aagttcacct acagctgcga cggccacacc ttcaacttcc 360
tcgtcgacga cggcttcaca tactgtgtgg tggccgttga atctgtcggt cggcaagttc 420
caattgcttt ccttgagcga gtcaaggatg attttacaaa gagatatggc ggtggaaaag 480
ctgcaactgc agttgccaaa agcctaaaca aggaatttgg gtccaaattg aaggagcaga 540
tgcagtactg tgtggatcat ccagaggaga tcagcaagct tgctaaagta aaagcccagg 600
tttcagaagt aaaaggagtt atgatggaaa atatcgagaa agttcttgat cgtggagaga 660
aaattgagct tctggtcgac aaaactgaga acctccgatc ccaggcacaa gatttcaggc 720
agcagggtac tcagatcaga aggaagatgt ggctgcagaa catgaagatc aagctgatcg 780
tactcggcat tttgatcgct ttgattctca tcatcgtctt atccatttgt ggcaatggca 840
aatgtaaata aattttggag ctttggagag attgcattaa tttcaagtca cacacactat 900
ggacgcgtgt tctatatgac agtatttaat tgctgtgtaa aaaaaaaaaa aaaaa 955

<210> 8
<211> 666
<212> DNA
<213> Eucalyptus grandis

<400> 8
gaagagaaaa aagaggagcc tccggctcca ataacagtcg tgttgaaggt tggaatgcat 60
tgcgaagcat gcactcgagt tttgcggaaa cgaatccgga aaattaaagg agtagagaca 120
gtggagaccg acgtggtgaa tgaccgggta atagtcaaag gtgtggtcga cccgccgaag 180
ctggtcgcat acgtgaaaaa gagaacgggg aagcaagcgt cgattgtgaa ggaagaggag 240
aagaaggaag aggagaagaa ggaagaggcg aagaaggagg aaagcaaaga aggagagaag 300
aaggacggcg aggaagggaa ggacgaggac ggctcgaaga tggacataaa gaagaacgag 360
tactggccct ccaggcctta catggaatat caaatgtacc caacccagat cttcagcgat 420
gagaacccga acgcttgctc cgtgatgtag tgtgatgtag tgctgagagt ttccaacctc 480
ggccccagtt aagagtacgt gtcgaggcaa ttttccattg tacttaaaga ttgctaataa 540
acagattcgc gagaccggga gtcgttggct aattgtaatc cgttgatgtt ctgtaatctg 600
tgttaccaat tgtctactct cttaatgtga aagtgtagat gaattttcag taaaaaaaaa 660
aaaaaa 666

<210> 9
<211> 352
<212> DNA
<213> Eucalyptus grandis

<400> 9
cctcgtcccc aaggtttttt tgcggcagta tggagttccc gagtgaattt tcagaggcct 60
cttcacagaa gagaatcggg gggagaggga aaatagagat caaacggatc gagaacacga 120
cgaaccggca ggtcaccttt tgtaaacgcc ggaacgggtt gttgaagaag gcttatgagc 180
tatcggtgtt gtgcgatgct gaagtggcgc ttattgtctt ctcgagccgt ggcaggctct 240
atgaatatgc taacaacagt gtcagaggaa caattgagag gtacaagaaa gcaagcagtg 300

attcctcaca tccacagtcc gtttctgaag tgaacactca gttttatcca gc 352

<210> 10
<211> 989
<212> DNA
<213> Eucalyptus grandis

<400> 10
gaggagatgg cgagggggaa gatccagatc aagctgatag agaacacgac gaaccggcag 60
gtgacctact cgaagcgacg gaacgggctc ttcaagaagg cgaacgagct caccgtccta 120
ggcgacccca aggtctccat catcatgatc tccagcaccg gcaagctcca cgagtacatc 180
agcccctcca cctcaacgaa gaagatgtac gatcagtatc agcaggcgct cgaggttgat 240
ctctggagct ctcactatga gaagatgcaa gagaacctga ggaagctgaa ggaggtgaac 300
aagaagcttc agctggaggt caggaggagg ttcggggaag gactgaatgg tatgagctta 360
tcggaattgt gcggtcttga gcaagatatg gacaacgccg ttagcctgat ccgtgaacgg 420
aagtacaaga cgctcggcaa tcaaatcgac accgccagga agaagaaaaa gaatgctgag 480
gaaataaaca aaagtctcct gcaagactgg accaatctga tcaagcatct gagggaggac 540
gacccgcact tcggaatggt cgacaacggc agggattacg aggctgtgat cgggtataca 600
gacgccgccg ccgccgctcg cttgtacacc ctgcgcctgc aaccggacca gcccaatctt 660
actagcggag gaggatcgga gatcacgacc taccctttgc tcgagtgaga cgaaggcgtc 720
ggaaaccctt ccgacgtcct catattgtct attcattctg tctaagggcc gattccatct 780
ggaatcctga cttcattggt atgtcgaagt ttaggacttt gttatgtcat cctattcagc 840
agctaagttt gttcttatca gaagctgttc ctattatgga ccgagggcga tttcctctag 900
ggcatcatgt gttttaagac aagtctatat ataagactac tttaaaacaa tcgaatgagt 960
tggtgcaaaa aaaaaaaaaa aaaaaaaaa 989

<210> 11
<211> 526
<212> DNA
<213> Eucalyptus grandis

<400> 11
agaaaataca gaaatctcag cacgatcccc atctcctcct tcgccaaagt cgttgggaac 60
ttcccccctt ctccctctcg ctccgtccac gaagcaagca agctctccgc gaagatccct 120
tccttgttgt taccaaattg gttgaagctt cttgtgggtt gctggacctg cagattttgg 180
ttaataaatg agtcagaagg gccttatata tagctttgtg gcgaaaggga ctgttgttct 240
ggccgagcac acgcaatttt cgggaaactt tagtactatt gctgtgcagt gcttgcagaa 300
gctgccttct aatagcagca agtacacata ctcctgcgat gggcacacat ttaacttcct 360
aacggatagt ggatttgttt tcctggttgt tgctgatgag tccgtcggaa gaagtgtgcc 420
tttcgtgttt cttgagcgag tgaaggatga ctttatgcag cattatagtg ccagcattgc 480
aagtggcgac ccacatccac ttgcagatga tgatgaggat gacgat 526

<210> 12
<211> 342
<212> DNA
<213> Eucalyptus grandis

<400> 12
agagagtaat ggggagaggg agagtggagc tgaagaggat agagaacaag atcaacaggc 60
aggtgacctt ctcaaagagg aggaatgggc tgttgaagaa ggcctatgag ctctctgtgc 120
tgtgtgatgt tgaggtcgcg ctcctcatct tctccagccg tggcaagctc tatgagtttg 180
gcagcgctgg cccttctggc ataaataaga cgcttgaacg ataccaacgt gacaacttca 240
ctcctcaaga caacgttgct gaacatgaga cacaacagaa ctggtttcaa gagatatcaa 300
aattgaaggc aaaatatgaa ctcttcaaca aactccagaa gc 342

<210> 13
<211> 197

<212> DNA
<213> Eucalyptus grandis

<400> 13
gcctgcttca aaaatcatct caggaggaag acaaagcaag gctagtacaa gacacgggct 60
tgcaattgac acagattaat aattggttta taaaccaacg gaaaagaaat tggcacagca 120
acccttcgtc ttccacagtt cccaagagca aacgcaagag aagccatgca ggtgatccgg 180
ataaagagag acctatg 197

<210> 14
<211> 182
<212> DNA
<213> Eucalyptus grandis

<400> 14
tgtatagaaa caaaagcacg atttggaaaa tcggttgaat ctccggccac ggacaagtgg 60
aaagtgtggt tccagaatag gagagccagg actaaattaa aacaaactgc cgtagagtgc 120
gagatgctgc agaaatgctg cgaaacccta aaagaagcgc acagcaggtt gcagaaggag 180
tt 182

<210> 15
<211> 983
<212> DNA
<213> Eucalyptus grandis

<400> 15
ggcttccctt tcttatcctc cattctcctc tctccttctc cttacactca cagacacaat 60
cacagagaga gagagagaga gagagagaga gagagagaga gaatggcatt cgcaggaaca 120
acccagaagt gcatggcctg tgagaagaca gtctatctgg tggacaagct cacagctgac 180
aatagaatct accacaaggc ctgcttcaga tgccaccatt gcaaagggac tctcaagctt 240
gggaactata attcatttga aggagtcttg tactgccggc cgcatttcga tcagctcttc 300
aagagaactg gcagcctcga aaaaagcttt gaaggaaccc ccaagattgc aaagccagag 360
aaacccgtcg atggagagag acctgcagcg accaaagcct ccagtatgtt cggggggaacg 420
cgagacaaat gtgtaggctg taagagcacc gtctacccga ccgaaaaggt gacggttaat 480
gggactccat accacaagag ctgcttcaaa tgcacccacg gggggtgcgt gatcagccca 540
tccaactacg tcgcgcacga ggggaaactc tactgcaggc accaccacac tcagctcata 600
aaggagaagg gcaatctcag ccaactcgag ggcgatcatg agagggaaac aatggctcct 660
gaatcataaa acgctttgat cttgcactac cttgttcgtt gagctgtcac cacactttgt 720
ggccagcgga tttcaggctg gtccaaaaac ctgttatgct attagagaat ctatgtccat 780
ctactaaatt tgagatgtgt gagccttgac cggtttgatt tggcttctgt tttgcgattg 840
cggatgattt ctcgggttgg ttgtaagcgt agaataagtg gtgcttgctt cttgactttg 900
tgaaacctct gagcttgctt tcttttcagt cttgtccagc gagtgtgtct agcatcatcc 960
ctatttttca aaaaaaaaaa aaa 983

<210> 16
<211> 397
<212> DNA
<213> Eucalyptus grandis

<400> 16
catttggtaa gatatttgaa gagtcagtcc gcaaagaatt gtcccccgag tttgccaagt 60
taatgcaaga ggggtctgcc tacttgccct ctggaatttg catgtcgacg atggggcgac 120
atgtctcata tgaacaagcg atcgcgtgga aggtcctttc tgcggaggag aacactgtcc 180
actgcctcgc ttctctttcg tgaattggtc tttcgtgtga gcatagccta atatattctt 240
tttttgacgc cctcttgctg ctgttgaata gatgtgaaaa aactaagagg ggttaggagt 300
tttgtcatac tgaaaaagaa aagaaagaac acatccaatt ccccaatttt ttatttaatg 360
aaaatttcca tgtgatgtgc aaaaaaaaaa aaaaaaa 397

<210> 17
<211> 60
<212> DNA
<213> Eucalyptus grandis

<400> 17
atgatggaaa tattgagaag gttcttgatc gtggtgaaaa aatcgaactt ctggttgata 60

<210> 18
<211> 60
<212> DNA
<213> Eucalyptus grandis

<400> 18
agacagtcaa tcttcgttct caggctcaag acttcaggca gcagggaccc aaaatgcgac 60

<210> 19
<211> 60
<212> DNA
<213> Eucalyptus grandis

<400> 19
gaaaaatgtg gctgcagaac atgaaaatag aagctgactt agttctgggc attattattg 60

<210> 20
<211> 48
<212> DNA
<213> Eucalyptus grandis

<400> 20
ctttgattct ggtcattgtt tatctgtttt gtcatggctt caattgtg 48

<210> 21
<211> 766
<212> DNA
<213> Eucalyptus grandis

<400> 21
tctgcagcat cattaaaagc tagtccattt ggctatcctg gtatgaggcc cacaagattc 60
accgggagtc aaatcatcat gccccttggt cacacaattg agcacgaaga gatgcttgaa 120
gttatccgtc ttgaaggcca ttctcttgct caagaagatg cttttgtatc aagagatatt 180
catcttttgc agatatgcag cgggatagac gagaatgcag ttggagtctg ttccgaactt 240
atttttgcgc caattgatga aatgtttcct gatgatgctc cactgctacc ctctggtttc 300
cgtatcatac cactggattc aaaatcatct gatgtacagg attctctaac gacaaatcgg 360
acccttgatc tgacatcgag tcttgaggtg gggcctgcat caacaaattg cgttggagat 420
gttgcgccaa gccatggtgc acgatctgtt ctgactatcg ccttccagtt cccatttgat 480
gccaacacac aggataatgt ggcagtcatg gccaggcaat atgtccgtag cgttatttcg 540
tctgtgcagc gggttgcgat ggtcatatct ccatcaggat tgggcccttc cattaacccc 600
aagctttcac agggatctcc agaagctcta acacttgcta actggatctg ccagagctac 660
aggcatgttc tgataatttg attgaattgg tcttcttttg gtgcatctca ctctgtgttt 720
gttgtgatct gccactcatc aagctgatgc tcgactatct ctctcc 766

<210> 22
<211> 329
<212> DNA
<213> Eucalyptus grandis

<400> 22

atacacaagg agatccacaa gtctggggga atagcacaag aggttgcagc tgctgggcct 60
tcgtcttctt ctggtggcat gaagagatca ctggtcttct ttttctgcgc caattgatga 120
aatgtttcct gatgatgctc cactgctacc ctctggtttc cgtatcatac cactggattc 180
aaaatcatct gatgtacagg attctctaac gacaaatcgg acccttgatc tgacatcgag 240
tcttgaggtg ggcctgcat caacaaattg cgttggagat gttgcgccaa gccatggtgc 300
acgatctgtt ctgactatcg ccttccagt 329

<210> 23
<211> 954
<212> DNA
<213> Eucalyptus grandis

<400> 23

attggacctt gcctcttctc ttgagatcgg gccagctgga aataggagtt ttaatgatat 60
taatgctaat tctggttgta cgagatcagt gatgactatc gcatttgagt ttgcattcga 120
aagccacatg caggaacatg tggcctctat ggcccgccaa tatgtgcgta gtataatatc 180
ctcggtgcag agagtggcat tggcactctc tccttccaat ctcggttcac atgctggtct 240
gcgtacacct cttggcactc ctgaagccca aacacttgct cgctggattt gccacagtta 300
taggtgctac ttgggggtgg atcttctcaa gtccagcaat gaaggaagtg agttgattct 360
caagaacctg tggcatcact cagatgctat tatgtgctgc tctcttaagg ccttacccgt 420
attcacgttt gcaaatcagg caggtctgga catgctcgaa accaccttgg tggcgctgca 480
agacataacc ctggaaaaga tttttgatga tcatggccga aagactctgt gttcagagtt 540
cccacaaatc atgcaacagg gttttgcttg tcttcaaggt gggatctgcc tctcgagcat 600
gggacgacca gtgtcatacg aaagggcagt ggcgtggaaa gttatgaatg aggaagagaa 660
tgcccactgc atctgcttta tgttcatcaa ctggtctttt gtgtgatttc tgttgcagaa 720
actaaggtat taagctatgt aagttgtgaa gaatgactct tcatctagtg actgctactt 780
caaactccta tggtctgtga accttagaac tgatgtgtcc tctcttgttt agacgttcgt 840
catgtggacg cctggtcgat gtcgactctt ttgccatgtc tgtgtagtgg ttatgaatgg 900
acgtggatgt tatgcttgga agtggttgat tatcattttc gtgctgtaga tgtg 954

<210> 24
<211> 338
<212> DNA
<213> Eucalyptus grandis

<400> 24

cagagagaga gagagagaga gagagagaga gagagaatgg catttgcagg aacaacccag 60
aagtgcatgg cctgtgagaa gacagtctat ctggtggaca agctcacagc tgacaataga 120
atctaccaca aggcctgctt cagatgccac cattgcaaag ggactctcaa gcttgggaac 180
tataattcat ttgaaggagt cttgtactgc cggccgcatt tcgatcagct cttcaagaga 240
actggcagcc tcgaaaaaag ctttgaaggg aaccccccaag atttgcaaag cccagagaaa 300
cccgtcgtgg agagagacct tcagcgacca aaggcttc 338

<210> 25
<211> 338
<212> DNA
<213> Eucalyptus grandis

<400> 25

gcggcaagga gcaactaaat gtaacactct gattactagg gacctctcat tgtctttgga 60
tggcatttaa atcaccagga ggaatcacgt ggctgaaaca tttacttgtg aagaactttt 120
acttagggga gcatctaaaa tgcaggaatg ggctcatcaa gaaggcctac gagctctccg 180
tcctctgcga catcgacatc gccctcatca tgttctcccc ctccgaccgc gtgagccact 240
tttcgggaaa aagaaggatc gaggatgtct tgacccgttt cattaacctc accgaccaag 300
aacgagacac tcctagatgt ccaggatcgg cgcacacg 338

<210> 26
<211> 301
<212> DNA
<213> Eucalyptus grandis

<400> 26
caaaccttcc cagggtttcc atttccattt ccttcataga atgctccgtt cctttcttat 60
cccttttttgg gtactctctg ttctcatggt cctttcataa agttttctca tctcttaacc 120
aagactggta agagagagag agatagagag tttattagtg ggtgagggtg ttaaaaaatg 180
ggaagaggga gggttcagct gaagaggata gagaacaaaa ttaacaggca agtgaccttt 240
tccaagagaa ggaatgggct cctcaagaag gcttatgagc tctcgctcct ctgtgatgct 300
g 301

<210> 27
<211> 188
<212> DNA
<213> Eucalyptus grandis

<400> 27
cgagatctcc gtcctctgcg acgccgacgt cgccctcatc gtcttctcca ccaagggcaa 60
gctcttcgag tacgccaccg actgttgcat ggagaggatc ctcgagcgtt atgagagata 120
ttcatatgca gagagccagg ttctcacaaa caatgccgaa accaatggga actggacttt 180
ggaacatg 188

<210> 28
<211> 261
<212> DNA
<213> Eucalyptus grandis

<400> 28
gtgattcctc acatccacag tccgtttctg aagtgaacac tcagttttat cagcaagaag 60
catccaagct tcggagacag ataagagaaa tccaggtctc agataggcat cttctaggtg 120
agggtataag tgatttgagc ttcaaggatc tcaagaatct cgagagcaaa ttagagaaat 180
cgatcagccg tgttagatca aagaagaatg agatgctttt tgccgagatt gagtacatgc 240
agatgagggg ccttgtgcag g 261

<210> 29
<211> 298
<212> DNA
<213> Eucalyptus grandis

<400> 29
gagaactctc gcaatgagtg ggatatactt tcaaatgggg gacaagttca agaaatggca 60
cacatagcaa atggtcgcga ccctggcaac agcgtctcgt tactccgcgt aaataatgca 120
aattcgagcc agagcaacat gcttatactg caagaaagct gcacagactc tgttggtgct 180
tatgtgatct atgctccagt tgacattgtc gctatgaatg tcgtattaaa tggtggcgac 240
cccgactatg tagcgctgtt accctcaggt tttgccatac ttcctgatgg gccagagt 298

<210> 30
<211> 218
<212> DNA
<213> Eucalyptus grandis

<400> 30
cgaccgagca ggtccatttc ctcgagaaga acttcgagct ggagaacaag ctcgagccgg 60
agaggaagat ccagctcgcc aaggacctcg gtttgcagcc ccggcaagtc gcgatatggt 120

tccagaaccg ccgggcccga tggaagacca agcacttgga gaaggaatac gaagatctgc 180
aagccagcta taacagcctc aaggccgact gcgacggc 218

<210> 31
<211> 240
<212> DNA
<213> Eucalyptus grandis

<400> 31
aaacaggcag gtgaccttcg ctaagaggag gaatgggctg ctcaagaagg cctatgagct 60
ctctgtcctc tgcgatgctg aggtcgccct cattatcttc tccacccgcg gcaagctcta 120
tgagttctgc agcagcccta gcatgctcaa aacgctcgac cgttaccaaa agtgcagcta 180
tggatccgtt gaagttaaca aaccctccaa agaactagag aatgcctacc gggagtactt 240

<210> 32
<211> 1223
<212> DNA
<213> Eucalyptus grandis

<400> 32
ggcccctctc tctttctctc tctctgtgtc tgtctttctt gtggatccac caggctcgtc 60
tttaagaata tacagcagcg agcaggcaag acaacgcccc atctctcttc tctctctctc 120
tctctctgtg gctctgtctt tcttttgttt cttgccgttt tggggtgtgt gtgttgggtt 180
gtgtgaattg gagcgaggat ggggaggggg agactgcagc tgaagaggat agagaacaag 240
atcaaccggc aagtcacctt ctccaagagg agggcgggtc tgctcaagaa ggcccacgag 300
atctccgtac tctgcgacgc cgaggtcgcc ctcatcatct tctccgccaa gggcaagctc 360
ttcgagtact ccaccgattc ctgcatggag agaattctcg aacgctatga aagatactca 420
tattcggagc accaagttct tgcaagtgag acagaatcga ttggtagctg gactttggag 480
catgctaagc tcaaggccag acttgaagtt ttacacagaa attataggca tttcatggga 540
gaagatcttg attctttgag tctcaaggac ctccaaaatt tggagcagca actggagtct 600
gctcttaaac acataagatc gagaaagaat cagctcatgc atgaatcaat ctcagtgctt 660
cagaaaaagg atagggcatt gcaggagcaa aacaacctgc ttacaaggaa agtaaaggag 720
aaggagaggg cactagcgca gcaagctcag tgggagcagc aagaccatgc ccttgactca 780
cctgttgttc taccccacta cttgccatct ctcgacatca atggctctta tcaagcgaga 840
cacaacggac acgatgacgg agagaacctg actcagcctc gggctggtac acttcttcct 900
ccgtggatgc tccaccgtct caattaaggc ttcgacataa agggaaactt ctgctgctat 960
atctttgata tgcaattctg aagtccagct gatgaattgc atggcataat ctggggctct 1020
cccccaccct tgttctagcg aaataaacat acctctgctt tttgctgcat tcagtactcc 1080
taagtgtggt cctccgtgta tgtatagcac cattgcaaat atgcatacca atgtacatgt 1140
atgcaaaatt atatatggaa gttaacacaa ccataaagca gatggagaag tatattgttt 1200
gctagcaaaa aaaaaaaaaa aaa 1223

<210> 33
<211> 2148
<212> DNA
<213> Eucalyptus grandis

<400> 33
ccgatctctc ccaatcccct cctctcactc tcccccaaaa accagtctct ggttttcctc 60
tctcccctgc acacacacac attctctctc ctccttccca ccattattac agaaacagca 120
gactgcgtag tgttgaaaaa cttgatccac aattgattgg gtaatgatga tgatctagag 180
ggagagagag agagagagag agagagagag agagagagag agagagcata aattcagtgc 240
aagcttttga ttggtgattg gtgacatctc ttctgggttg ggtttgggtt tgtgggtttg 300
ggtttgggtt ggtcttttgc ttgtgagagt attattcttt cttcaccctc tgtgcatgaa 360
ttttcttggg ccatgctcat gcattctcct cctctttctt catcaccatc gtcatcgtct 420
ctggctttga tgggttggcg aggggggggag ctgagggaga gggagaggag aggagagagg 480
agcggctgtg cgttcgcgtg cagggctgca cgaggtgttc tcgtttcggg cgcgggcgct 540

ctgcttccat ggctgctttt aagtaagacg ccaaaagaaa accttttttgc tctctcgagt 600
gtcatgaact cgcactgaaa gtgcgcgccg aaccgagaag aagaagaaga agaagaagaa 660
gaagaaagag aaaccatccc cttagaaaac gcgaaaaaga gtaaatagta aaaagagcaa 720
gcttgatctt acttgatcta aaacattaag atccttctct gttcgagaga agtcacagtc 780
ccgctttttc cagacatgaa gagacttggc agctcagatt cgttgggtgc tttgatgtcc 840
atctgcccac cttcagagga attgcagcac agtccgagaa acggcaaccc catctaccac 900
agcagggacc tgcagtccat gctggagctg ggcctcgacg aggaaggctg cgtggaggac 960
cagtccgccg gcggcggggg gcacgtcggc ggcgagaaga agcggcggct gagcatcgac 1020
caggtcaagg ccctggagaa gaacttcgag gtggagaaca agctcgagcc ggagcggaag 1080
gtgaagctgg cccaggagct ggggctgcag ccgcgccagg tggccgtgtg gttccagaac 1140
cgccgcgcgc ggtggaagac gaagcagctg gagcgggact acggcgtgct caagtccagc 1200
tacgaggcgc tcaagctcag ctacgacgcc ctcaagcacg acaacgaggc ccttcacaag 1260
gagataaaag agctgaaatc gaaactccgg gaagaagacg acaaccccga gagcaatctc 1320
tccgtcaaag aagaggtcat catccccggc cacgacgtgt cggacaagat ccgggccgca 1380
gacgacggtg acgacgacac caaacgctct cctccccctc cgatcaccgc cccgcctcgc 1440
gagctgagct tcaacaatgg tgggctgaag gacgggtcgt ccgacagtga ctcgagtgca 1500
attgtgaacg aagagaacgc ggcgaccagc agcagcagcc cgaaccccgc cgtccagagc 1560
cacggcggct tcttgaaatt catggggtca tcgtcctctt cggcctcccc accgccgccg 1620
ccaccggctt ccttcggcgg gtgcttcagc ttccagttcc agcgagcgta ccagcctcag 1680
cctcagcctc ctcaccacca ccaccaccac agtccgtacg tgaagatgga ggagcacaat 1740
ttcctcggcg gcgaggagga ctgcaacttc ttctcccaac aacaagcccc caacccgcaa 1800
tgggaacgcc cccaacaagg gaaacgaagg aaaacaaact ccccccgtgg aaggggactc 1860
cagattagag atcgataaaa aaaatgtagg gcgacaactc cctagcttta cgtgcttgtg 1920
aagtgaaaca aactctcggg cacacgattg cacgaatcac ttcaacccgg cacgacatga 1980
ctcgacacga cgagaataag atcgagctag tgagagaaga gtttgggcac ggagcgacaa 2040
ttcgagtagt atgcagttcc ttattgcgcg cggcattccg gttataggat gcaaattaga 2100
attgaatatg atgcgatatg gtaatgtttt aaaaaaaaaa aaaaaaa 2148

<210> 34
<211> 273
<212> DNA
<213> Eucalyptus grandis

<400> 34
gtcttgcgct cggttcttga gctcgttctt gagagctgaa cggagacgat gggcgaggaa 60
tcgttcatat acagcttcgt ggcgagaggg acgatgatct tggccgagta cacggagttc 120
acgggcaact tcccggccat agccgctcag tgcctccaga aactcccttc ctccaacaac 180
aagttcacct actcctgcga tcaccacacc ttcaatttcc tcctcgaaga tggctacgct 240
tattgtgttg tcgccaaaga atcagtgggc caa 273

<210> 35
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 35
attccattta gcctctttcc tcctcaatcg gaagggttct tcaacccaat ggacggcaac 60
ctctcattgc aaatcggata caatccgaca tgtctggacg agatgaatgc ttcggtttcg 120
agccaaaatg ttgccggatt cattccggga tggatgcttt gaacttacta catcgacttg 180
gagtgtgaat cgagctggtg aaatttgtgc gcgtgtccct tgtaaaattg cgatccgcaa 240
gacaataagt acataatatt ttggagctgt gatgacataa aaagaggaag gccacccttt 300
cctctctcat gatcagaact tttgataatg tctgtatggc ccggcagtgc aattggaacg 360
agctcagctt tgcagttctt ttcg 384

<210> 36
<211> 238
<212> DNA

<213> Eucalyptus grandis

<400> 36
gcaggaggag agcccatgtg gattgcagga cccgatggct cttcaagcgt gctgaatgaa 60
gacgagtaca ttcgcgcatt tcctcgtggg atcgtaacaa accccaccgg atttaagcgc 120
gaacctcacg acaaaccggg gtcatcatca tgaatcacat caatcttgtt gagattctca 180
tggatgtgaa ccagtggtcc actatattct caagcatcgt gtcaagagct atgacttt 238

<210> 37
<211> 698
<212> DNA
<213> Eucalyptus grandis

<400> 37
gccttggcac gcagattcca tcgggaatcc atatgccttc tgcgaatctt agttccatat 60
cgttcttggg tcctattccc atggtatcgg gggatggtgg tgggaggacc ggttctgagc 120
ggtcaagaaa cgctgattgt gctccggcag gttttcctgg aggtgatgaa gatgtgaata 180
agggagggga cattccttat ggaatgtcaa ccatcgtgag agtcattccc aattctaggt 240
acttgagggt ggcgcagcaa ctgcttgatg aaatagtgaa tgtgcgaaag gctttgaagc 300
gctctgatga cgcgaatgac caatctagac atgagaacca aaggagcccc aaagatgcgg 360
atgggggttc caagaacgaa gcatcctcaa atccccaaga atccgccagt aactctagcg 420
agctttctgc tgctgaaaaa caagatttgc agaacaagct cacgaagctc ttgtccatgt 480
tggacgaggt tgataaaagg tacaagcagt actatcacca aatgcagatc gtggtacagt 540
cttttgatac aatagcagga agcggtgcag ccaagcccta cacggcgctt gcgctccaga 600
ggatatcccg ccacttccgg tgcctgcatg acgcgatcac gggtcaaatt caagcaaccc 660
gtaaaagtct cggagagcaa gacacctcta cagaaacg 698

<210> 38
<211> 277
<212> DNA
<213> Eucalyptus grandis

<400> 38
aattcttact gacactccat caaactggta caccgcgtcc tgaacatttc acccagtgga 60
cctcaatgac ttgatatctt agaatggata ttggaactta taggggttac gtacagacgt 120
cttgatggaa gtacccaggt gacggacaga caaagcatag ttgacacttt caataatgat 180
acttccatat ttgcttgctt gctttcgacg agagctggag gacagggttt gaatttgacc 240
ggagctgaca cggttgtcat ccatgacatg ggatttc 277

<210> 39
<211> 225
<212> DNA
<213> Eucalyptus grandis

<400> 39
tgttggcacc atgtacacac acagtgtggt aaagcaggct ttgggatgct caagcaagag 60
aatctgagca atgaactaga tagggtcaaa aaggagaacg acaacttgca gattcagctc 120
aggcacctga gaggaagaca taacatcact gaaccacaga gagctgataa tcctagaaga 180
cactcttgaa aacggcctcg gatgtgtccg agaccagaag gacga 225

<210> 40
<211> 341
<212> DNA
<213> Eucalyptus grandis

<400> 40
aggcagcaaa gagctcgagt ccttggaaag acagctagat gggtcattga agcagatcag 60

atcacgaaga actcagtaca tgttagatca gctgactgat cttcaacatc gggaacagtt 120
gctccacgaa gcaaacagga ccttgaatca acggttgatg gaaggatacc aagtgaatgc 180
gctccagtta aatcaacatg ccgaggaagt cggaggatac ggtcatccac cgccgccgcc 240
actgccgcca cagccacttg ctcagcctca cagcgaagct tttttcatcc cttggaatgt 300
gaacccactt tgcaaatggg ataccagccc gatccagtgt c 341

<210> 41
<211> 1286
<212> DNA
<213> Eucalyptus grandis

<400> 41
ccatcaagct ttctttcaca aagagagggg ctttcgggag acaagcttcg acggagaaga 60
gtctttaact tagcaccaat atagagagcg tcttcaagct cgggtatggt cgagggagaa 120
agaaatggcg atgacgatgg tgcctcacag ggagagcagc agtggaagca tcaacaagca 180
cttgaccgac tcggcaagta cgtgaggtac acagcggagc aagtggaagc tctcgagagg 240
gtctattcag aatgccctaa gcccagctct ctgcgcagac aacagctgat tcgggagtgt 300
cccattttgt ccaacatcga gcctaagcag atcaaagtct ggtttcagaa tcgcaggtgt 360
cgagagaagc agagaaaaga ggcctcaaga ctccagacgg tgaacaggaa actgacggcc 420
atgaacaagc tcttgatgga ggagaatgat cggctgcaga agcaggtttc gcaattggta 480
tgcgaaaatg gctacatgcg tcagcaactc catactacat cggctactac taccgatgca 540
agctgcgact ctgtggttac tactcctcag cactctctca gagatgcaaa taaccctgct 600
gggctcctct ccattgcgga ggagacattg gcggagttcc tctccaaggc tacaggaact 660
gctgtcgatt gggttcaaat gcctgggatg aagcctggtc cggattcggt tggaatcttc 720
gccatttcac aaagttgcag tggagtggcc gctcgagcct gtggtcttgt tagtttagaa 780
ccaaccaaga ttgtagagat cctcaaagat cgtacttcat ggttccggga ctgtcggagc 840
cttgaagtct tcaccatgtt tcctgccgga aatggtggaa caatcgaact tgtttacacg 900
cagatttatg ctccaactac tctggctcct gcacgagatt tatggactct cagatatacc 960
acgactctag aaaatggcag tcttgtggta tgtgagagat ctctgtccgg atctggtgcc 1020
ggccccaacc cagcttcagc agctcaattt gtgagagctg aaattcttcc tagtggctat 1080
ttgattcgcc catgcgaggg tggaggatca atcattcaca ttgttgacca cctcaatctc 1140
gaggcctgga gtgttcctga ggttcttcgg ccactttatg aatcatccaa agttgtggcc 1200
cagagaatta ctattgcggc tcttcgatac atccggcaaa ttgctcagga gacgagtggg 1260
gaggtggttt atggtttggg aaggca 1286

<210> 42
<211> 338
<212> DNA
<213> Eucalyptus grandis

<400> 42
ctctcttctt tctctctttt ctctcaagct ctctccttca tcttcaagaa cacaagacca 60
aatcaatctc ccaccatctc ctcaaatggg catagatgat ctgtgcaaca caggccttgt 120
tctgagtctt ggcctcgaga cgcccttcaa gatcgaagcc cagaggcaag ccaaacagcg 180
ccttaacttc gagccctctc ttacgctgtg cctctccggc acgaccaaag ctacccgcga 240
cgagcagcct ccggcggacc acttgtatcg ccaggcttcg ccgcacagcc acaacagcct 300
cagcgcggtg tcgtcgttct cgagtccgcg ggtgaaga 338

<210> 43
<211> 219
<212> DNA
<213> Eucalyptus grandis

<400> 43
ggagagtggt gaagcacggc gacttagaga ttctctggtg gaaatggcaa atgtaggcaa 60
gagccctagc atgttgacag agtgtggtct tgcagagaat tctctcgtct caattgcgga 120
aagagtgaca catcatcggt ggtcctggtc ggaggtcaaa tatctctctg attgccatct 180

gatggcacta gatgctagcc tttagagttg tgtatcgga 219

<210> 44
<211> 310
<212> DNA
<213> Eucalyptus grandis

<400> 44
tattctgaag caagttcaga tgagggaaat cagtattcta cacgtgaaga ggagggagag 60
attgaggagt ttgaggagga cacttacagt ggtgctcctg gagcactacc aatcaacaaa 120
gaccagtctg atgaggatgt tccggctgaa gaatgtgatg agtatccatg gacatcagag 180
aggactagga acaatcattt gccggaagaa gccggtttct caggatcatc ggcagacagt 240
cctagaggaa tcaggatggc atctccttct gcttcttcac agaaatttgg atctttgtct 300
gcattagatt 310

<210> 45
<211> 1043
<212> DNA
<213> Eucalyptus grandis

<400> 45
tctctatctc tgttctcgaa cctctgcggc gaattccttc tctctataac tgaagagtat 60
gaacgcgcca taagcgtcgt cgtcttcgtc gtcatcgtca tcatcaacgg gattcctccc 120
atcgcccctc ctcctctccc accgcatggc cttccacaac cacctctccc accaggacct 180
ctcctccctc caccacttcg ccgccgacca gcagccgccg ccgccgcagc accagcagca 240
gcagcagcac ctgccggact cctcctcctc cgtccaccac cagctccacc acgccgccgg 300
ccccaactgg ctcaacaccg ccctcctccg ctccgacgcc gcggcggcgg cggcggcggc 360
ggcgggcggc aacagcttcc tcaacctgca cacctcgtcc gactccgccg cgtcgccgca 420
ggcgcagcag cagccgccgg cgacgtccgc gtcggccgcg gcggggcacc accagtggct 480
gtcgcggcag cactcgtcgc tgctgcagcg gaaccacagc gaggtcatcg acgcggactc 540
gatcatcgac tcggcggatt tgaaggagag cgtgagcaag gggacggcgg ggggcggcgg 600
ggccgcggag agtaattggg agaatgccaa gtacaaggcg gagatattgg cgcacccgct 660
gtacgagcag ctgctgtcgg ctcacgtggc ttgcctgagg attgccacgc cggtcgacca 720
gttgccgagg atcgacgctc agctggctca gtcgcagcat gtggtggcca agtactcggc 780
gatgagtcaa ggattggtcg ctgatgataa agagcttgat cagttcatga cacattatgt 840
cctcttgctt tgctctttta aagaacaact gcagcaacat gtccgtgtcc atgccatgga 900
agctgtaatg gcatgctggg agattgagca atccctgcaa agcttaacag gtgtttctcc 960
tggtgaaggt actggggcaa caatgtctga tgacgaagat gatcaagttg atagtgacgc 1020
caacttgttt gatggaagtt tag 1043

<210> 46
<211> 391
<212> DNA
<213> Eucalyptus grandis

<400> 46
ccaacaagtc atatatcctc gacttgctcc cagtggaacg ccttccatta cttaatcgct 60
gctagcgcta aacccccctc actcttcacc agcaaaaacg ccttttctcg cacacaaatg 120
ggtcgtcgta aaattgaaat acagccaata acgcacgagc gaaaccgatc tgtcacattc 180
ctcaagcgca agaacgggct gttcaagaaa gcgtatgagc tcggtgtgct ctgctctgtc 240
gacgtcgctg ttatcatctt tgaggatcgc ccagggcaca gccccaagct ctaccagtac 300
tcgtctcgcg gtatccagga tattgtgcag aggcatcttc atcacgatgg cgagactgat 360
aaccgtggcc ctggggactt ttcgggcgct g 391

<210> 47
<211> 821
<212> DNA

<213> Eucalyptus grandis

<400> 47
ctaccgtacc gcctcactta aatatcatcg ccgtttgtct tcttgctcaa ctgttccaaa 60
tcccaggatc acagcaaaga ttcccttcac catagcacga gcctccggct cctgccgagc 120
cgtccaagcc gaaatagcca cgctagggaa ccaggtccat gtaacgcttc gtaatcaatt 180
gaatgaagga agcacagagg gcgagccagc gagcgagtga aggaatagcg cctcccgaca 240
cccgtatata acagcaattc aagaactgcg cttccccaca atcttcccag tacaagctct 300
agacggtctc gactcaaagg catggataaa gtaagtgctt cgtgtaatta gactcaacca 360
ccttctctga ttccccatat atacccacca gaacgtcaat caagcagagc agcagcaccg 420
ttggctttta agatgtttag tacgggagaa tattctgctg ctgccttcga aggcatggac 480
tcgctcccga gcccaaggaa gaagaagaac cagctggtga acagaagaag gttcagtgat 540
gaacagatca ggtcactgga gtctatcttt gaatccgagt cgaggctaga gcctcggaag 600
aagctgcagc tcgctaggga attggggctg cagccccgcc aggtggccat ttggttccag 660
aacaagagag cccgatggaa gtccaagcag ctggagcgtg acttcgccat tcttcgcgcc 720
aactacaacg ccctctattc ccggttcgag tctctcaaga aagagaagca atccttggtc 780
actcagattg agaaactaaa ccaactcgtc gagaagccgc a 821

<210> 48
<211> 648
<212> DNA
<213> Eucalyptus grandis

<400> 48
cagaagcatc tcgtttcagg caaagcatga aggttcatca gttcgcacgt ggattctttg 60
agctcgaacc caccaccctc acgctcgggt gcaaacgcct ccgccccctc gttccaaagc 120
tcccccacca gaccgacgtg gtctcgactg ccgcatttgt cgacatcaag agcttcatcc 180
gcccggagag cggcccgcgg aggctcggct cctcctctga cgacaagaga gaccctcctc 240
aggtggaaac acatccagga gggacacgtt ggaacccgac acaagagcaa atcggaatac 300
tcgagatgct gtacagaggg ggaatgagaa ctcccaacgc gcagcagatc gagcagatca 360
cggcacagct cagcaagtac gggaagattg aaggcaagaa cgtgttctat tggttccaga 420
accacaaagc ccgcgagagg cagaagcaga agcgcaacag cctcggcctc tctcactgct 480
cgagaacccc caccacagcc gccaccatcg ccactgtaac tttgaacact actaaggtac 540
acagaaccat actaccatat ttttttcctc attccggcat tggtgtcaga gcgctgcatg 600
atgcatgctg acctcgacag ttggttcgtc ggactcatgc ttcatgtg 648

<210> 49
<211> 559
<212> DNA
<213> Eucalyptus grandis

<400> 49
tattccctct caattttagc ttctagcgtt ctttttcccc cattttatca aatataatca 60
tcatcacgat cgccctccct tttcctctct ctatttctct ctctctctct ctctctcttt 120
ctctctctct ctctcggagc ttcagcaaga ctgtcaggct aaactgtgga gtctcaaaga 180
ttccaacagg aggagtgcgt gcataaggct caggacatga cttgcaacta gcgagggatt 240
ggactgatgg ccttcttttc accaaatttc atgcttcaaa gcccgcacga tcaagatcat 300
gaacaccctc atcaccagca tcagaccaga tcctctcctc ttgcacgcct caggacttcc 360
atggtgttgc ctccctattg ggcaagagat ccatgtcctt cacgggcatt gacgtgggcg 420
acgaccccaa catcaacaac ggcaacgtta atggggagga agatctgtcc gaagatgatg 480
ggtcgcagcc agggggagag aagaagagga ggctcaacat ggaacaggtg aagacattgg 540
agaagaactt tgagcttgg 559

<210> 50
<211> 486
<212> DNA
<213> Eucalyptus grandis

<400> 50
gggaaggcga ccgcttccgg cggcggtggc gggtacatga gcagcccggt ccctctcggg 60
cctttcacgg gctacgcgtc gatcctcaag gggtcgaggt tcttgaggcc cgcgcagcag 120
ctgctggagg agctttgcga agctggccgc gcaatttgta ccgagaaaat gacggatgat 180
tcgtgcgcga tgacggagcc tgccatggac agcttgagtg gtggttgtgg gattggtatg 240
gacgatggtt gtggtggaga cggcggcgag ttccgccgga agaagtcgag gttaatctcg 300
atgcttgacg aggtctgcag gaggtacaag caatactgtc agcaaatgca agctgttgta 360
gcatcattcg aatgtgtggc ggggcttagt aatgcagctc cttacgcaaa cttggcttta 420
aaagctatgt ccaaacattt taagtgcctg aaaaatgcaa ttgctgacca acttcagttc 480
accaac 486

<210> 51
<211> 726
<212> DNA
<213> Eucalyptus grandis

<400> 51
tttctctctc tatctccatc tctctctctc tctctctctt ggatcaagcc gaaatctctc 60
tgctcaatcc ctctccgatc cgatctccgc cgccgccgcc gccgccgtcg ctggacctcg 120
atctcctctc ctctcctctc ctctcctccg ccgcggagct ctccggcgat cccgcctcgc 180
ttcggcttta gggttttccc ctttcccccg gggtggtcgc gatttcggcg aggcattgtt 240
tcggatttcg cggggggatc catgggtcaa cagtcgctga tctacagctt cgtggcgcgg 300
gggacggtga tcctcgccga gtacacggag ttcaccggca atttcacctc catcgcctcc 360
cagtgcctcc agaagctccc cgccaccaac aacaagttca cctacaactg cgacggccac 420
accttcaact acctcgtcga gaacggattc acctattgcg tagttgcagc tgaatctgct 480
ggcagacaga ttcccattgc tttcttggaa agaatcaagg atgacttcaa caaaagatat 540
ggtggaggaa aagctacaac agctgctgcc aacagcctga acagagaatt tggtcccaag 600
ttgaaggaac acatgcaata ctgcgttgac catcccgaag aaatcagcaa gcttgcgaaa 660
gtgaaagctc aagtatctga agttaaaggt gttatgatgg aaaatattga aaaggttctt 720
gaccgg 726

<210> 52
<211> 395
<212> DNA
<213> Eucalyptus grandis

<400> 52
tgagtggtgg agtgtccaca ataagtggcc ttacccaacg gaagccgaca agattgcgct 60
ggccaaatcc actggcctcg accagaagca aataaataat tggttcatca atcagaggaa 120
gcgtcattgg aaaccctcag agatcacaca ttataaagtc atttagacat tttgttaacc 180
attcttgcat gagttcaatt acagagcatg tagaatcaca atgccttccc cctttttgg 240
gggaattaaa gagtcaccaa ggatgcgatg tacacaaaga aacaacatga gcgcagcagg 300
aagcgatcac ctaatgtcgc agcaagcacg acatccagtt cacctcaatc agccactaat 360
attgcccggg gatactgtcc atgagagcga attgc 395

<210> 53
<211> 1700
<212> DNA
<213> Eucalyptus grandis

<400> 53
cgaaaagggc agaggttaat gctctgcacc aaccgcctta ctctttctta aacctctcaa 60
gcctctcact cttctgagct cattacttca cttacaacac actctctctc cctgtattag 120
aaggaaagga tgagtaaaca agatgtcatg aagatgcaga cgtgtgttct cagagtgaac 180
atacactgtg aaggatgcaa gcagaaggtc agaaaactgc tgaagaagac cgagggagtg 240
tactctgcta atatagatgc ggagcaaggc aaggtaacag tgctcggtcc cgtagatccg 300

tacacgctca tcacgaagct tgagaaatca gggaaacatg cggagctctg gggggatca 360
ggaggacaca agaacggcac ccaaaaccct cctccttcgc tcccacaaca accaccgcag 420
tcggtttcgc tccgtcgacg aatctgcacg gaggaggaga cggcccatgg cgatgcaaac 480
tgggataggg ctttccaaga tcctggtcct cgccggagct ggatacactg gcacgatact 540
gtttcagaac gggaagttgt ccgacttgtt gggcgagctc cagggtttgg tgaagggatt 600
agaaaaatct ggtagccaat cagatggaga taaagactat tctgatgctg ttgccgcaca 660
ggtgcgtcga ttggcaatgg aggtccgaca gctagcctct gcacgtcaaa taactgtcct 720
gaatggaaat tctagccaaa tgggcaactt aactaatatg gttgttccag cagctacact 780
gggggcactg ggatatggct acatgtggtg gaagggtctt tcattctcag atctcatgta 840
tgtaaccaag cgcggtatgg ccaattgtgt ggcaaacttg acccaacatc tagagcatgt 900
ctccgaggct ctcaactcag taaagaaaca tctaactcag cgaattgaga acttggatgg 960
caaaatggat gaccagaggg agctatcgaa agaaataaag aatgaggttt cttctgtaaa 1020
agccaatctt gatggtctgg gtgatgacct ggattttttg cagagaatgg tttccggttt 1080
ggatgtacga atgggatcac tggagtacaa gcaggattgg gcgaatgagg gtgtgaggta 1140
tctctgtggt gtggctagcg ggcagaaggt ggaaatgcca aaaatgctgc aggagcaaat 1200
taagatttca ggcacctctc gaggattact ctcatatcag gatactccaa gtcttaaggg 1260
tctgaaggaa atcgctgatg cattgacctt gagtattgat agatcagctt cagatgctgt 1320
tgtgcaagat ggagttgaaa gattaaatgg aaaaccaaag ccattgccaa gggctagttc 1380
aaccacatgt tgatcgtaga gtaatgtgaa gttcccctcg cactgtggta ctaaaccatg 1440
gatgtacatg tgcttgttac accacctttc gattcctcaa ggttggactt tggtagcatc 1500
agtcctcatt gcagatgtaa cggtagattt ggtatgtaaa tggaattcac ttccaaagta 1560
tgagagattg agagttatta tggcgatgca gattggtgct gtcaaagtaa taatccggtg 1620
aatctcatcc cgaatatttg ctgctctttt gtattatttt tcaagttatg gtgtgaaaac 1680
ctctgaagcg gtttgtttcc 1700

<210> 54
<211> 944
<212> DNA
<213> Eucalyptus grandis

<400> 54
ctcttcctcc ctcctctgca atttgcacgg agccctcccg ctctcgcttc tttaacatgc 60
ccaccacctc ctggtgcaac ttcacctcga ggcctccgtg agctactgtg tgggcgtgct 120
tctcttctcg taataattct aatcctaaca tggtgtggta tgcgagacaa aaccagacca 180
gaccctccat ggctcgtcta gtccctttcc tatccgtttc gtgacccacc tgggcatctc 240
caattactct ctctctcttt ctctctctct ctagggtttt cgaagacagc tcctccccct 300
cgaagctcgc tagggttttg gatcgtcgtc tcatctcggg tcgtgtttgg aatggaggaa 360
tatggccaga tgaacgagaa cagtagcact gggtccagag ggaacaacag cttcttgtac 420
gcatcgccgg ttcttgggcc gagctcctcc ggcaatagca attacgggag gggaaatagc 480
agcggtggcc acttctattc ccagtccggc gatcactgct tccaatccga agcgccgccg 540
cacccggtgg tgaagactga agcaaccacc tctcaccacg gccatgctca gaagtttcat 600
cactattctc tggtgagaga ccatcatgac ccatcagctt ctcaccacca ccaccaccaa 660
caccaccagc atcagcagct acaaacagcg agcgagagct cgcgcgaggt cgatgccatg 720
aaggccaaga tcatcgctca ccctcagtat tccaacctct tggaagctta catggactgc 780
caaaaggtcg gagcgccgcc tgaagtggtg gcgaagctgt cggtggcgcg acaggagttc 840
gagtcgcggc agcggtcgtc ggtggcttcg gcggacgggt cgaaggaccc ggagctggat 900
caattcatgg aagcgtatta cgacatgctg gtgaagtacc gggg 944

<210> 55
<211> 915
<212> DNA
<213> Eucalyptus grandis

<400> 55
gtgaagaagg tgaagatgaa caggtcttgc agcccaagat caagcggaag cgtagtctca 60
gggtgcgccc tcgtcacact atggaaaggc cagaggaaaa gtctagcaat ggggcactac 120
ctgtacaatg tggagattct gctttcttgc cactccaaat ggaccacaag tatcaacccc 180

agtcaaggac tgcgtctgag accaatccct ttggagaacc tactgcttcc aagcatggtc 240
atggtggtcc ctccatgaaa agcaagcgac aaacatctct aaggagaata aatgatccat 300
caaagctaca tcccttgcca aaatctagca gatcaaatca catttcgtca tcagatgctg 360
ctgcggaacg ctcgagagaa aactggaatg gtagagttgc aaatccttca ggaaattcaa 420
gtgttggtgc cggtttatct gaaatcattc agagaaagtg caagaatgta gtgagcaagc 480
tccagaggag gatagataag gaagggcatc acattgttcc gctgctaact gacctttgga 540
agaggatggg aagtcctggt catatgggtg gtgttggaag taacctttttg gatttgcgga 600
aaattgatca gcgcattgag aaattggagt acggcgatgt gatggatctt gtgcttgacg 660
tgcaactgat gttaaaaggt gccatgcagt tctatgggtt ttctcatgag gttagatctg 720
aagcgagaaa agttcatgat ctcttctttg acatattgaa gattgcattt ccggacacag 780
attttgaaga agtgaggaat gctctctctt tctcgggccc tggtgctgca tcccaatctg 840
ctccatcacc aaaacaggca tccgctggcc aaagcaagag acacagggca ttaaatgagg 900
tcgatgctga caaag 915

<210> 56
<211> 498
<212> DNA
<213> Eucalyptus grandis

<400> 56
gtggtgggga aggctctgca gaaatgcgcc aaaatttcta cggatttgaa gaaggcgctc 60
tatggctctt ccgtcgcttc atgcgagcac tactccgaag tggaagcttc ctctaatcgg 120
attgtcactc aggatgatgt tgatgcagca tgtggtgctg atgatacaga ttttcagcct 180
gttctgaagc cttatcagct tgttggtgtc aactttcttc ttttgttgca tcggaagggc 240
gtaggaggag aggggcaggg ggtgctaaaa tatgatacat ctctagctaa tggtgcatct 300
ttgtactcca tgcaagccat cctagcggat gagatgggtc ttgggaagac cattcaggcc 360
ataacatact taacattgct gaaacacttg aataatgatc cgggtccgca cttggttgta 420
tgcccggctt ctctcttgga gaattgggaa agggaactca aaaggtggtg tccttcattt 480
tcagtactcc aatatcat 498

<210> 57
<211> 474
<212> DNA
<213> Eucalyptus grandis

<400> 57
ccaaaggtaa gttcgatcaa ctgtagatca taggagtaat ttaaaccatg ttcatggttg 60
acgaccacgc tttatgtttg agttgcaatt gtacattcaa cattctggcg tgttgcaatt 120
gcagctatcc caaagattcg gacaaacaca tgctcgcaaa acaagcggga ctaaccagga 180
gccaggtgtc taactggttc atcaacgctc gggttcgcct ctggaagccc atggtcgaag 240
aaatgtactt ggaagagacc aagagccgag agcaagctgg gtctgagaac ggcacgactc 300
gcagggccgc caccaaatcc aacaaggacg ctgctggttt gaagtccgca tctcaagaag 360
acaatgcctt tggaatgaac agctccatca aatccttcca atcaagcccc aacaaggccc 420
tcaatcaagc cgccatttca ccctccgaga actccaactc gacttcctca actt 474

<210> 58
<211> 489
<212> DNA
<213> Eucalyptus grandis

<400> 58
ggagcaccag cctcgggtca aagttcccat gcacttcaag tggaggaaac ccgagattca 60
cccctcgggt ttgtggtgaa ggtggaggac cgcctgagtt ccgggagcgg tgggagcgcc 120
gtggtggatg aggacgggcc gcagctcgtg gacagcggcc attcatattt tcattgcaat 180
gactacccgg gaagcttggt ggccgtcaat gggttgcagt cagaggacga tggaagcgat 240
gatagccgag gttactgctc agagattttc gccgctgctg aagagccgca tcaggaggga 300
ggcgtgccta atggggtggt gggcgtggcc ctagttttag gttttcgcct tttggtatgt 360

tctcgtaaat ggttcaagtc aaatatgtgc tcatgagact atgcaatgtt tcacgaaggg 420
gaagaatctg taaacgttta ctggaacttt ggacatgaat aaaactgacg tgtttggtca 480
aaaaaaaaa 489

<210> 59
<211> 456
<212> DNA
<213> Eucalyptus grandis

<400> 59
tctcgccttc aggcagtgaa taggaagctg actgcaatga acaaactttt aatggaggag 60
aacgataggc tgcaaaagca agtgtcacag ctggtgtatg agaacagtta tttccgccag 120
cagacacaaa acgcaaccct cgccaccact gacacgagtt gtgaatcggt ggtgaccagt 180
ggtcagcacc atttgactcc tcagcatcca ccaagggatg ccagccctgc aggacttttg 240
tccattgcag aggaaacttt aacagagttt ctttcgaagg ccactggaac tgctgtggag 300
tgggtccaat tgcctgggat gaagcctggt ccggattcca ttggaatcat tgctatttct 360
cacggatgca ctggtgtggc agcacgtgca tgcggccttg tgggtctaga accttcaaga 420
gttgctgaaa tcctcaaaga tcggccgtcg tggtat 456

<210> 60
<211> 455
<212> DNA
<213> Eucalyptus grandis

<400> 60
tgacgatgtt tgtggaggag gaaagagacc ggaaaggcct ttcttttgca catatgacgg 60
ggaggaaaat ggagacgatg attatgatga gtatttacac caacctgaga agaaaaggcg 120
attgtctatc gagcaagttc tgtacttgga gaagagcttt gagactgata acaagcttga 180
accagataaa aaagttcagc ttgccaaaga actcgggttg caacctcgtc aagttgctat 240
ttggttccaa aatcgaaggg caagatggaa aactaagcaa atggagaagg atttcgataa 300
attgcaagct agttttaact gtttgaagtc tgattatgaa agtcttctca atgagaagga 360
gaagctcaaa gctgaggtta ttcatttgac acaccagcta gagcaaagga gcaacggaat 420
tctgaaccat tcgacatatc tgaacaattg cacac 455

<210> 61
<211> 406
<212> DNA
<213> Eucalyptus grandis

<400> 61
cccaaatcaa atgatatcgg gtgaaagatt ttgagttttt tttttttttc atttgaattg 60
tcaccgtact ttttccgaaa ccgggcacaa tggagaataa attcaggggt acaatcattt 120
gagttcatac gacatgccta attacatgaa ctgcgaaact caaaagttca atctttctcc 180
ttcccctgca tcagcgccta attctgaaaa aaattgagcg tcagcaagtg tttagggatg 240
gatttcttgt tttgctagag gggggattgg ctatgggaat tgaggaggcc acgaagaggc 300
aatcgatttt cagctatcct gaggatcttt acaacgagga atattatgat gaccaggcgc 360
cggaaaagaa gcgccgcctc actcctgagc aggtgcatct gttgga 406

<210> 62
<211> 530
<212> DNA
<213> Eucalyptus grandis

<400> 62
ctctctactt tttatcttct tcttcttctc cgtcttcttc ttcactgatc actgcaaaaa 60
aaaagaaaaa gaaaaaaaaa aagtactcct ccgcctccgc ctcctcctcc tcctgctccg 120
cagccgtacg caggcgcgca cgctcgacag cgcattcctc ctcccctcgt tcgcggcggc 180

```
aggcaggcag gcaggcaggc agacactgcg cgtgccatga gaagaaggcc gtgatggaat     240
gggagaagca ggaacagcac cacccccacc accaccacca cccccaccat cacccgcagc     300
agcagcagca gcaccaccag cagcagcagc agccgcagca gcagcagcaa gcgaaggagg     360
ctcagcagca gcagcagcag cagggggag agggcatggg taacgggacg gcggccggga      420
acgggggcgg agtgctgtac gtgaaggtga tgacggacga gcagctggag accctccgga     480
agcagatcgc cgtctacgcc tccatctgcg agcagctcgt cgagatgcac                530

      <210> 63
      <211> 452
      <212> DNA
      <213> Eucalyptus grandis

      <400> 63
gcccggggcc ccgtcctgct ggccgagtac accgagttca gcggcaactt caccagcgtc      60
gcctcccagt gcctccagaa gctccctgcc accagcaaca agttcaccta caactgcgac     120
ggccacacct tcaactacct cgtcgacgat ggcctcactt actgtgtggt tgcagttgag     180
tctgttgggc gccagattcc aatggctttc cttgagcgga tcaaggagga ctttactcac     240
agatacgacg caggaaaagc tgcaacagca tctgctaata gcttgaacag ggagtttggg     300
cctaaactca aggagcacat gcaatattgt gttgatcatc cggaagagat cagcaaactt     360
gctaaggtga aagctcaggt atcagaagtg aagggagtaa tgatggaaaa tattgagaag     420
gttcttgatc gtggtgaaaa aatcgaactt ct                                   452

      <210> 64
      <211> 354
      <212> DNA
      <213> Eucalyptus grandis

      <400> 64
gccaagtagc accccgtttg ccccacatta tctgtgatat gtaaacgtgg tgggcctctg      60
ttagctacaa tatgattggc atcatttaag cttttgcgta atcatcagtg ttctcaattt     120
gcaaaatacc attaacggat cttgcagcat ggaaagcatt ttagagaggt acgagagata     180
cacttatgcg gagcgacagc aagtggccac tgattcccct caagtgcagg gaagttggtc     240
gcttgaatat cccaagctcg tggctaggat cgaagtcttg cagaggaaca taagaaactt     300
gagcggagaa gagcttgatc ccttgagtct gagagagctg cagtatttgg agca           354

      <210> 65
      <211> 1239
      <212> DNA
      <213> Eucalyptus grandis

      <400> 65
ctctctctct ccttcccctt ctgactttgc tcaagcttct ttcctttctt taggataagt      60
gctacatgag cttgtcgctt tgtgtttgat ctcaatttcg cacatgaagg tgatgaagct     120
cactaatagc ccatcttctt ttctctctct ctctctctct gcgcgatttg ttttgttcag     180
cgaaagaaga agagataaat attgaagtga agtgaacagc tgcgatggcg acttactacc     240
accagagctc atctgaccca gatggagccc tacaaaccct cgtcctcatg aaccccgcca     300
gctacgtcca ctactccgat gccccgcctc cgcaccagca accctcggcg atcttcctca     360
actcctccac cgccgggccg cccgcatccc agacccagca atttgtaggc atccccctac     420
ccggcagcgc cgccgactcg cagccctcgt ccatgcacgt caaccacgat ctctcctcca     480
tgcatggctt catgcctcgc gtccagtata acctctggag ctccctcgac ccgtccacgg     540
cggcgcgtga ggcctcccgc acccaccagc agcaggggct ctcccttagc ctctccccgc     600
agcagccccc accgacccca gctgggtacc gttcctttgt ccgggccgag cgcagtggcg     660
atggagcagc gggttctcag caccctccag caatttcagg cggtgaggac gtgcggatct     720
cgggcgggtc cccatcgtcg gcctcaggcg taaccaatgg ggcggcagtt gggtcgggca     780
tgcagggggt gttgctgagc tccaagtact tgaaggccgc acaggagctt ctcgaagagg     840
ttgttaatgt tgggaacacc ggaatcaaag ctgagatgct gaagaaggcc agcggccaaa     900
gtaagccggg tggagaatca gcggcactga aggaggaagg aggtggcgac ggcagtggta     960
```

agcgcggcgc agaactgtct atggctgaga ggcaggaaat tcagatgaag aaggctaagc 1020
tcataaacat gcttgatgag gttgaacaga gatacagaca gtaccacaac cagatgcaga 1080
tcgtgatatc ctcgtttgag caagctgcgg ggattggctc tgcaaggacg tacacggccc 1140
tcgcgctgca gaccatctca aagcagttcc ggtgcctcaa ggacgcgata gcaggccaga 1200
ttcgggccgc taataagagc ttgggcgagg aggatggcc 1239

<210> 66
<211> 371
<212> DNA
<213> Eucalyptus grandis

<400> 66
gttgagcagg tacagtttct tgaaaagagt tttgaagtag agaacaagct cgagccagat 60
cgcaaaatcc agttggcaaa agacctcgga ttgcagccac gacaggtagc gatatggttt 120
cagaatcgtc gtgcacggtg gaagacgaag cagctagaga aggattatga aactttgcaa 180
gcttctttta acaccctgaa gtcagactac gacactctca tcaaggagcg gaatgatctg 240
aaagccgagg ttcttaacct cacggacaag ctgcttcaca agggaaatga gaaggagagt 300
tccgagtcgt ccagcaaatc atctcaaggg ctattccaga accccattgc tgattctgtt 360
tctgaggacg a 371

<210> 67
<211> 387
<212> DNA
<213> Eucalyptus grandis

<400> 67
ggccatcatt agttccgatc aaatggagcg aaggatgtta gaagcagctc ggaagggcaa 60
tgtccatgag ctggaagact tgatcagcag caatgagctc atcctcgagg agatggatct 120
tgaaggagcc ggtcacacgc cgctgcatgt cgcctgtgtg gctggccatt tggatttcgt 180
tcgagagctc ctgaagcgta cgccaaagct tgcggaaaag gtgaacacgg atggtttcag 240
cccgctgcac atcgcggctg ctcgaggtga tgtcgagatc gcgagggagc tcttgacaat 300
gggtccacac ctgtgctccg tgaagggacg ggagagaaga atccctttgc attatgccgc 360
tatgaacggg aaggtcgatg tcatgaa 387

<210> 68
<211> 479
<212> DNA
<213> Eucalyptus grandis

<400> 68
tccggctgtc gaaggaccag tccgccgtcc tcgaggagag cttcaaagag cacaacaccc 60
tcaatcctaa gcaaaagctg gcactggcga agcagctggg gctgcggccc agacaagtgg 120
aggtctggtt ccagaacagg cgagccagga cgaagctgaa gcagacggag gtggattgcg 180
agtacctgaa gcggtgctgc gagagcctga cggaggagaa ccggcggctg cagaaggagg 240
tgcaggagct gcgggcgctc aagctctccc cgcagttcta catgcacctc tcccctccca 300
ccaccctcac catgtgcccc tcctgcgagc gggtcgccgc cccgtctccc ccctccgccg 360
tcggccgccc cctcgccgcc gtcccggccc acccccgccc cgtgcccctc atcaacccat 420
gggcccctgc ggccgcttta gaaatagtgg atcccccggg gctgcaggaa ttcgatatc 479

<210> 69
<211> 684
<212> DNA
<213> Eucalyptus grandis

<400> 69
cagaaagtga ctcgccctag tgtaggagta gggagaggct tggatgcaca ttccatttcg 60
cctccttgaa gccctccaac ggcgcagata tttccttgct tttttaggca aaatgttgaa 120

aaactggtga taataaaaag aagccctgtt tagctataaa gggaagcccc atcctttctc 180
ctccctttct ctttcttacc tgtccccccc tcccctctcc tggctctcgc tctctctctc 240
tctctcagtt ctttctcgga cgggtgtctg tgcgtggctt ttgatcggtc atcacctgag 300
gccgcgtctg caagcaagtg aagaaggagg acaaggaata tggcgagaga gaagatcaag 360
atcaagaaga tagacaatgt gacggcgagg caggtgacgt tttctaagag gagacgaggg 420
cttttcaaga aagccggaga gctgtcggtc ctgtgcgatg ccgaggtcgc tgtcgtcatt 480
ttctcggcta ccggcaagct ctttgagtac tccagctcca gcatgaagga cactcttgag 540
aggtacaccc tccaccacaa taatcttgag aatatggacc aaccttctct cgagctgcag 600
ctggagcata gcaataacat gaggttaagc aaggaagtgg cagaaaagag ccatcgactc 660
aggcagttga ggggtgagga tctt 684

<210> 70
<211> 356
<212> DNA
<213> Eucalyptus grandis

<400> 70
gcaggttgct gtgtggttcc agaatcgccg ggctcggtgg aagacaaagc aactggaaag 60
ggattatgat tacctcaaat cttcgtacga ttcccttctt tcggactatg attccatctt 120
gaaggaaaac gagaagctca aactggaggt ctattccttg acagaaaaac ttcagggcaa 180
ggaagtcgat ggagcaccaa tgacaggccc ctcggagcca gctccgctgg aggaggctga 240
tgtccaggcc gtccaattca gtgcgaaggt ggaggatagg ctgagcacaa ggagcggggg 300
aagcgcagtg atcgacgagg aaggtccaca gcttgtggac agtggcaact cgtacc 356

<210> 71
<211> 725
<212> DNA
<213> Eucalyptus grandis

<400> 71
cccaacgcct ccccaaacgc aacgcaaaga ttccattttt ccctctcgcc gtcgcgtgaa 60
actccggccg ccggcggcct cagatcaccc cgcttcagca gcagcagcag caagcgctga 120
gcaaagagga gaaggtggct gctttcatgg aggcccactg agtcttcagt ccggagcttc 180
cgacccaaga aagggagagc agacgaagca gagggggaga ggcaaagaga gagatttgag 240
gagctgggaa gtgttttggg aaggagtggc atgatggggt tttgcatatg tccgctggag 300
acgccggcga ggctgctgtg gacgaccagc ttcttccgtc acaagctcat gctcttctaa 360
ctcgcggcct ccctgtgtag acatagtgta aactcgtttg tacgtatatc tacgtgttaa 420
gtgctttttt tccagtgcct cgccggagtt tcggtcaggc tgggatacag gttgccggag 480
atccacctcg ggctgagaag ggtatggagg cagggcgttt tctgtttgat ccccccgcgc 540
ttcaggggaa catcctcttc cttgataaag gatcaagatc catgatgggc atggaggaat 600
ccccgaagag gcgccggttt ttctgctcgc cggacgaact tttcgatgag gaatattacg 660
atgagcagat gccagaaaag aaacgtcgcc tcactcctga gcaggtgctt ctgctggaga 720
agagc 725

<210> 72
<211> 523
<212> DNA
<213> Eucalyptus grandis

<400> 72
ctgaagaccc aaatcctccc tcacttctag gtgcatagtt tgatccctct cattctcatg 60
gatgaaatgt acgggctctg cggcggcggc ggcggaggag gaggaggagg aggagaggag 120
tactccgaga gggcgctgat gtcgccggaa aacctggtgc tgccgtcaga gtaccaggcc 180
tggctgtgct cggccgggtt tagggataat cgaatcccca tgtacgggtt cgggtcggag 240
gagttcgtgt cgtcggcgtc gggcatgtcc gagaccgcct cggtcacacc cgaccaagag 300
gatgcggcgg agacagcgat caagtccaag attaagtccc acccttcgta ccctcgtttg 360
ctccacgcct acatcgattg ccagaaggtg ggagcaccac cggaagtggt ggggctgttg 420

gacgaaatcc ggccagagaa cggcgtgtgc aagcgagacg ccgccgtttc tacatgcctt 480
ggtgccgatc ctgagctcga cgagtttatg gagacgtaca cag 523

<210> 73
<211> 646
<212> DNA
<213> Eucalyptus grandis

<400> 73
ctaacctggc cgtctctttc ttcctgccat tggctcttcc ttttgtattt tcctctgctc 60
cctgctccct ctctctctct aaaagcctgt gggcttatag ggtccgttga atggtctctc 120
tctctctctc tctatcaatc gctctctaca gagagcagag ggaaattctc gagattggcg 180
tctggggata aaagaccagc acagggacca tcttcttcat tccctctctc tcttcctcga 240
ctggaacaag aaaagctctg tgtgtagcgg aggaagtgcg tccagagaga gctctcttgc 300
tgcgggacat tattctcatg aaggagatag gaggctctct tcggcagaga gagcccgcct 360
ccggagagag cctgcccgac tgaccccccgc gcagacattg gcattcctcc ttcttcttcc 420
ttccccctct cgagaacgtt cggagaaaaa agcgacagag cggaacccgg gactgcggat 480
ggcgctggcg atgcacaggg agtgctcgag caagcagatg gacgcgagca agtacgtgcg 540
gtacaccccc gagcaggtgg aggcgctgga gcgggtctac aacgagtgcc ccaagcccag 600
ctcgctgagg cggcagcagc tgatccgaga gtgccccatc ctctgc 646

<210> 74
<211> 471
<212> DNA
<213> Eucalyptus grandis

<400> 74
ctcctctctc ataagtcata attcacaggc gcggcacaag gcacgaaaag ataaaaaaaa 60
aaacgatggc cggtgaggag ccctattctg ccgacacgaa ctcggacact ttcgctgatg 120
aagaaacgct gattccgagt tcttccgagg ctcttgagtc cgcctgggtt cctacttcct 180
cgaccgctca tcatggttca aaatcagtgg tcaattttga ggacgtttgt ggaggaggag 240
acaccaatac tgcgccgagg ccatacctcc gacagattga tctgaaggaa gaagccgtcg 300
aagaggacta cggcgacggg aactttcagc ctcctggtaa gaagcggcgg ctatcggccg 360
accaagtcca tttcctcgag aggcactttg aggtcgagaa caagctcgag cccgagagga 420
agatccagct cgccaaggac ctcggcctgc agccgaggca ggtcgcgatc t 471

<210> 75
<211> 766
<212> DNA
<213> Eucalyptus grandis

<400> 75
tctgcagcat cattaaaagc tagtccattt ggctatcctg gtatgaggcc cacaagattc 60
accgggagtc aaatcatcat gccccttggt cacacaattg agcacgaaga gatgcttgaa 120
gttatccgtc ttgaaggcca ttctcttgct caagaagatg cttttgtatc aagagatatt 180
catcttttgc agatatgcag cgggatagac gagaatgcag ttggagtctg ttccgaactt 240
atttttgcgc caattgatga aatgtttcct gatgatgctc cactgctacc ctctggtttc 300
cgtatcatac cactggattc aaaatcatct gatgtacagg attctctaac gacaaatcgg 360
acccttgatc tgacatcgag tcttgaggtg gggcctgcat caacaaattg cgttggagat 420
gttgcgccaa gccatggtgc acgatctgtt ctgactatcg ccttccagtt cccatttgat 480
gccaacacac aggataatgt ggcagtcatg gccaggcaat atgtccgtag cgttatttcg 540
tctgtgcagc gggttgcgat ggtcatatct ccatcaggat tgggcccttc cattaacccc 600
aagctttcac agggatctcc agaagctcta acacttgcta actggatctg ccagagctac 660
aggcatgttc tgataatttg attgaattgg tcttcttttg gtgcatctca ctctgtgttt 720
gttgtgatct gccactcatc aagctgatgc tcgactatct ctctcc 766

<210> 76

<211> 443
<212> DNA
<213> Eucalyptus grandis

<400> 76
gttcttctcc gattcttgac gaccgcaaca acaatatgca acaacaacgc gggtggttca 60
ggttcaggct caggctcagg ttgtttcttc atggacaacg atgtcaaggc caagatcatg 120
gctcatcctc actaccaccg ccttctctca gcttatgtca attgtcagaa ggtgggagct 180
ccgcctggcg tggtggcaaa gctagaggaa gcgtgtgcat cggctgcgat aatggccggg 240
aacagcggca tgagcaacac aggttgcatt ggtgaagacc cagctcttga ccagttcatg 300
gaggcctact gtgagatgct gactaagtac gagcaagaac tctccaaacc cttcaaagag 360
gccatgctct tcctccagag gatcgagtgc caattcaaag cccttactct tggtgttcct 420
tctgattctg tggctttgag tga 443

<210> 77
<211> 529
<212> DNA
<213> Eucalyptus grandis

<400> 77
tggaagcagt aaaggagtgg gaataccccg gcttcgtttt ttggaccagc agctcaggca 60
gcaacgagcc ctacagcagc ttgggatgat gcaacagcat gcatggaggc cgcaaagagg 120
acttcctgag agttctgttt ctattcttcg ggcctggcta tttgagcatt ttcttcatcc 180
ttacccaaag gattctgaca aaatcctgct tgcaaggcag acaggcttga caagaagtca 240
ggtctcgaat tggttcatca atgcaagagt gcgtctctgg aaacctatgg tcgaagaaat 300
gtacaaagaa gagattgggg atgcggaaat ggactccaac tcatcctccg acacagccaa 360
gccaaaaaca ggagatatca agtcctccat ggaggaccgg gtggaagaag tgcaacagag 420
ttcaacagct acacagagat gcagctcagg ccagctcatg gactcatcat tcgaccggac 480
tccagatgtc gaaatggcag gccactctgt gggattcaac tacctgaac 529

<210> 78
<211> 941
<212> DNA
<213> Eucalyptus grandis

<400> 78
acttaatgca atctgcaagg ttaagggtta tgctgaccca ttacaatatc agagttgatg 60
tctgaggtgc aagtcactca gatgaaatct gatggtacgc tagaggagag tggtgaggca 120
cggcgactta gaaattcttt ggaggaaatg gcaaacgaag gcaagagccc tagcatattg 180
aaagaatgtg gtcttccaga aaattctttc gtctcaattc cacaaaaaat gacagaaaat 240
cggtggtcct ggtcggaggt caaatatctc tctaattgcc ttcttttggc actagatgca 300
agccttgagc attctctttt gggatctctg atgaatatgg atagatatgc tgctgcagag 360
agttatcaca aacttgctat ggcttttgcc cctgtcccgg atcttcacat tatgtggttg 420
ttgcacttgt gtgatgcaca ccaggagatg cagtcttggg ctgaagctgc acaatgtgct 480
gtggctgttg ctggtgttgt aatgcaggcc ctagtagcta gaaatgatgg tgtctggagt 540
aaagaccatg tgacggcact acgtaaaatt tgcccaatgg tcagcagtga gatcagctgt 600
gaggcatctg ctgcagaggt tgaggggtat ggtgcttcaa aactcacagt agactctgct 660
gtgaaatatc tgcagcttgc aaacaagctt ttttctcaag ctgagcttta tcatttctgc 720
gcaagcattc tggaactcgt gattccagtt tacaaaagca ggagagcata tggacagctg 780
gcaaaatgtc acaccttgct caccaatatc tatgagtcaa tccttgagca ggaatccagc 840
ccaattcctt ttacagatgc tacatattac agggtgggat tctacggtga aaaatttggg 900
aagctggata ggaaggaata cgtttatcgg gagccccgtg a 941

<210> 79
<211> 436
<212> DNA
<213> Eucalyptus grandis

<400> 79
cccacaccaa gactcaccac catcactcaa tcgcaatctc caaccccacc aagtctatgt 60
cccaagacta tcaccacccc agcatcttcg ccttctcaaa taacggcttc gagcgacccg 120
acgttgccgc ggcctccgct gcctcagacc aagaacagca gcaccatgta gcccagcaga 180
tctgccgtga caagcttcga gtgcaaggct ttgaccaacc tccaccgcca caactggttg 240
gcatggagga ggaaccaggc gggctgcccg cgtacgagac cgctgggatg ctatctgaga 300
tgttcaattt ccctcccggc ggtgcagccg ctgccgaatt gctggagcag ccgatggcgt 360
cgggttatcg ggctgcccgg ccatcactgc caaccgtgag tggtacggct caaaaaaccc 420
aggtgtgtat aggcga 436

<210> 80
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 80
atcgttgatc acatggattt agagccatgg agcgtgcctg aagtattgcg cccactttac 60
gagtcgtcaa ctttgctcgc acaaaggaca acgatggcgg ctttacgcaa tctgaggcag 120
atctctcaag aagtttccca gccaaatgtc actggttggg gaagaagacc tgcggcactg 180
cgtgctttag gtcagagatt gagcaagggt tttaacgaag ctgtcaatgg atttatggac 240
gatggttggt ctatgttgga aagtgatggc gtcgatgatg ttactcttct cattaactca 300
tcgccagcca agatggcagg cgtgaacatt tcttacgcaa gtggttttcc ttcaatgact 360
agtgcggtct tgtgtgc 377

<210> 81
<211> 478
<212> DNA
<213> Eucalyptus grandis

<400> 81
aggtttgtcg atgccactgg tgttcttctg agtctagatt gatagagaag gaccggaagt 60
caccaagaaa agggtcttat ctggtttctt gatagccttt tttggttttg tattgagaat 120
tcacttcgtt cagagaggag agagcctgtg agagtagtga tcggagatgg cgacggcctt 180
tgcagggacg cagcagaagt gcaaggcctg tgacaagacc gtgtatctag tagatcagct 240
cactgctgac aacaaggtct tccacaaggc ctgcttcaga tgccaccatt gcaagggcac 300
tctgaagttg agtaactatt gctcctttga gggtgttcta tattgcaagc cacatttcaa 360
tcagctcttt aagatgactg ggagcttgga taaaagtttt gaaggcactc caaaaactgt 420
caatagatct tctgagcagg gccaaagtaa tgccaaagtc tcgagtatgt ttgccgga 478

<210> 82
<211> 493
<212> DNA
<213> Eucalyptus grandis

<400> 82
cagatgatga tgaggatgac gatttgtttc aagatcgttt tagcattgca tacaaccttg 60
accgagagtt tgggccaaga cttaaggagc atatgcagta ctgcatgagc catccagagg 120
agatgagtaa gctatccaaa ttgaaggctc agatatcaga ggtcaaaggg attatggttg 180
ataatattga aaaggtgttg gaccgtgggg agagaattga acttctggtt gacaaaacag 240
agaacctaca attccaggcc gacattttcc aaaggcaagg aaggcaactg cgtaggaaga 300
tgtggtttca gaatctccaa atgaaggttg tggtggctgg agcagttgtc atagtaatat 360
tcttgctgtg gcttatagca aagtggggaa gtaaataaaa cttgttctca ggatgtaaaa 420
agaaaaggta caatatgatt ttgtatctgg atatgtttgt tggtatgtgg agctagccta 480
ccacttagga ttt 493

<210> 83

<211> 764
<212> DNA
<213> Eucalyptus grandis

<400> 83
atgcattctc aacaaataca gtcgattgcc ttatcagcag gaaacattag tgaaattatg 60
caatccaaac ttcaatgcgc tgcttccacc agtttctctt ccttcttatc ctttttgccc 120
ccagtgaaga atttgtaccc tccatagata agcacacccc aaccagacaa agacacaatt 180
acaaaatgct cttccttcca tttagatgga ctcaaagggt catcccaaac attaactctt 240
ggtggtccat ggtgatccgc cgcgccggcg aggccgcgcc gctggccgaa ggcggcggct 300
tgggccgaca gccccggaga ggaggcgcgc gagagagcgg cggcccggcg agctgcgatc 360
gcggctaacg cagtagccat ggctggatcg agagagagag gagagagtgt gctcttgata 420
gcctttttttg gttttgtatt gagaattcac ttcgttcaga gaggagagag cctgtgagag 480
tagtgatcgg agatggcgac ggcctttgca gggacgcagc agaagtgcaa ggcctgtgac 540
aagaccgtgt atctagtaga tcagctcact gctgacaaca aggtcttcca caaggcctgc 600
ttcagatgcc accattgcaa gggcactctg aagttgagta actattgctc cttcgagggt 660
gttctatatt gcaagccaca tttcaatcag ctctttaaga tgactgggag cttggataaa 720
agttttgaag gcactccaaa aactgtcaat agatcttctg agca 764

<210> 84
<211> 490
<212> DNA
<213> Eucalyptus grandis

<400> 84
ggtttatgcc cctatcgatt caacagcgat gaccatcgcg ttgagcggcg aggacacttc 60
cacagtgcaa attcttccat ctggcttcac gatctccagc gatggccgga ttggcacaag 120
ctccagcaag ccagcaggta cacttctcac tgtggcgttc cagatattgg tttccagcca 180
ctcaggtcca gagcagctca gcgtggaatc cgtggcgacc gtgaacactc tcattagtgc 240
gaccgttcag aaaattaagg ctgctctaaa ttggtctgcc gcggaatgat tttttttttt 300
ttttaatatt tgactaggcg gaatgatcct tctatttgtg ttgatggttt gtaccgaaag 360
atgagatgat ataatttcat agcgagatga tttaatttca catcgtcacc aacacgtggt 420
gagtacaacc agttcctgtc cataatgatc taagttggtg tttatattgg aatgactttt 480
tgcggaactg 490

<210> 85
<211> 427
<212> DNA
<213> Eucalyptus grandis

<400> 85
atcaaatgga gagagcagct cgaaagggca atatccatga gctgaatgac ttgatcagca 60
gcaatgagca aatccttgag gagatggctc ttgaaggagc cggccacacg ccgctgcaca 120
tcgcttgtat gggcggccat ttggatttca tccgagagct cctgaagcat atgccgaagc 180
ttgcggaaaa agtgaacccg tgtggtttca gcccactaca catcgcggca gctcgtggtg 240
atgttgagat cgcgaaggag ctcttgaaag tgaatacaga cctgtgctcc gtggagggac 300
gggagagaag aatccctttg catgatgctg tcatccacgg ggaggtcgat gttatggaga 360
tactactatc tacttcacct gagtctgttg aaaagaaaac cgcccggaag gagaccgtgc 420
ttcacct 427

<210> 86
<211> 365
<212> DNA
<213> Eucalyptus grandis

<400> 86
gccaagtgac atcttcctct tgcaactttg caatggagtg gatgaaaatg ctgttggcac 60

ttgtgctgaa ctacttttcg ctccaattga cgcatccttt tctgatgatg cacccattat 120
tccttcggga ttccgcatca ttcctcttga tccaggatcg gatgccttca gcccaaaccg 180
gacacttgat cttgcctcag ctcttgatgt tggtcccaca ggcaacaaag cggtcggtga 240
taattctggt catagtggaa acaccaaatc tgtgatgact atagccttcc aattcgcatt 300
tgaattacat cttcaagaga atgtggcgtc catggctcgt caatacctca gaagtattat 360
agcat 365

<210> 87
<211> 180
<212> DNA
<213> Eucalyptus grandis

<400> 87
tttctctctt ttctctcaag ctctctcctt catcttcaag aacacaagac caaatcaatc 60
tcccccatct cctcaaatgg gcatagatga tctgtgcaac acaggccttg ttctgagtct 120
tggcctcgag acgcccttca agatcgaagc ccagaggcaa gccaaacagc gccttaactt 180

<210> 88
<211> 468
<212> DNA
<213> Eucalyptus grandis

<400> 88
aaatcaatgc ccccgaaagc gacccttcac ttacacccgc catcaataga cacccccttct 60
cggagaccca ggccaccacc ctcctccagg ccaccaccgc catgatctcc tccgctgtcc 120
aggtggcggg cccggcgcac atagatgacc cctgccgccg cagcatcgga ggcagcacgg 180
gcttaggcgg cgccacggac atcgggtccg cgctgatccg gtttgggaca gccgcggcag 240
caacggcgga cgtgtccctc accctggggc tgcgccacgc cgggaatgtg ccagagaaga 300
gctctttctc ggttaccgac ttgggcggct gttaattagt aattaaattt ttgcctgtca 360
tctagctacc tttgggaaaa aaaacaattt tagaaaaaga aaacctttct ttttcctcca 420
ttatcattaa tctagcttaa aaacaagata caccaaccct caggaaac 468

<210> 89
<211> 441
<212> DNA
<213> Eucalyptus grandis

<400> 89
cttcaatgaa ggaaatggta ccccaagcaa acagaaaatc aaagagatta ctaccgaact 60
gagtcaacat ggacaaattt cagaaacgaa tgtctataac tggttccaga accggcgtgc 120
acgatccaaa aggaaaatgc agaatgcaac cggcaacaat actgaatctg aagctgaagc 180
agaagttgag tccccaaagg agatgaagac aaaaccggag atctttcaat ctcagcagaa 240
tcctgtatca aggaacgaag atttatgctt ccaaagccct gagattagct cagatcttca 300
ttttgctgat tcacagacca aagtggagag catggtttat ccagatggca gtttgagatc 360
caggaatagg aacctaggcc agctatcttt ctatgatgcc atgatgtcaa attcaggcgg 420
tcttgcagga aatgagcatc t 441

<210> 90
<211> 744
<212> DNA
<213> Eucalyptus grandis

<400> 90
ctcctattga tgaatctttc gcagatgatg ctcctttgtt gccatctggc tttcgtgtca 60
tacaattgga tcctaaaaca gatgggcctg cccctactcg gacattggac ctggcctcta 120
cgctggaggt gggatctggt ggtgctcgtc ctacttgtga agctgatgct agcacctaca 180
acctgcgatc tgtcctcacc atcgcattcc aattcgtgtt tgagaaccat ttacgggaca 240

ctgttgccat catggctcgt caatatgtgc gtagtgttgt gggatctgtc cagagggttg 300
ccatggcaat tgcaccttcc aggctaggtg gccatctggg gccaaaatct ctctctggtt 360
ctcctgaagc tcttacgctg gcacgatgga tctgccgtag ctacagaatt tgtgctggag 420
ctgaactgtt gagaggggac tcccaagctg gtgatgctgt tttgaaggaa ttttggcacc 480
attctgatgc aattatgtgc tgctctgtga atacaaatgt ggcctctcct gtcttcacct 540
tcgccaacca agctggactt gacatgcttg aaactactct ggtggccctc caagatatta 600
tgctggaaaa ggttcttgat gaaggtggca ggaaagttct ttcttcggag ttcccgaaga 660
tcatgcagca gggtatcgcc tatctgccag ccggagtatg catttctagc atgggaaggc 720
cagtggctta tgagcaagcc gttg 744

<210> 91
<211> 509
<212> DNA
<213> Eucalyptus grandis

<400> 91
gtccggctca ctaaggaaca gtctgctctt ctggaagaga gcttcaaaca gcatagcact 60
ctcaacccta agcaaaagca agctctagcg aggcagttga atctacggcc ccgccaagtc 120
gaagtgtggt ttcaaaacag gagagccagg acgaagctca agcagaccga agtggactgt 180
gagttcctca agaagtgctg tgagacgctg accgacgaga accggcgatt gcagaaggag 240
ctccaggagc ttaaggccct gaaactggcc caaccctttt acatgcacat gcccgcggcg 300
accctcacca tgtgcccctc gtgcgagcgg attggtgcgg gcccgagcgt cgacggcgca 360
gcgccgacga agggcccttt ttcgatgacg acaaaatcac acttatacag tcatcacttt 420
accaatccat ctgctgcttg ctgattagaa gttattaggg ttttagagat attacagaga 480
gagagagaga gagagagaca tatatagac 509

<210> 92
<211> 363
<212> DNA
<213> Eucalyptus grandis

<400> 92
ccattagagt ttcacaatga cgtgagactt accttcagca atgcgatgac ctataatcct 60
cccagcaatg atgtccactt gatggctgat actctcaaca aattttttga cattaggtgg 120
aaaaccattg aaaagaaact tgttgtcggt ggaccacaac catcatcaac aaaatcagct 180
ccacctgagg aggtaaaagc agccaagtca acagctcttc ctaaaaagag gaaaatgtcg 240
agtcaacaag aagttatgcc tgcacctctt cttcaggtaa tgacagatga ggagaagcat 300
aaactaggcc aggaattgga gtctttgctg ggagagatgc ccgaaaatat tattgatttt 360
ttg 363

<210> 93
<211> 110
<212> DNA
<213> Eucalyptus grandis

<400> 93
acatgcagct ctatgcgcct accactctgg caccggcccg tgacttctgg ttgctgcgct 60
acacatctgt aatggaggat gggagtcttg tggtatgtga aagatcaatt 110

<210> 94
<211> 440
<212> DNA
<213> Eucalyptus grandis

<400> 94
acagagagct caagactcag ctcttgcgga agtacagcgg atatcttggt agcctcaagc 60
aggagttcat gaaaaagagg aagaagggga agctcccgaa agaggcccgg caacaattgc 120

ttgattggtg gagtcgacac tacaaatggc cttacccatc agaatcacag aaactagctc 180
tagcagaatc aactggacta gatcagaagc aaatcaacaa ctggttcatc aaccaaagga 240
agaggcactg gaagccatcg gaggacatgc aattcgtggt tatggatgcc actcaccctc 300
attactacat ggacaacatg ctcggcaatc cctttcccat ggacatctct ccgaccttgc 360
tttgaagtct atggttgata ttgctaatat tattcgaccc tagtgtcatt atgagctcta 420
aatgtgctct ttccgagtgc 440

<210> 95
<211> 413
<212> DNA
<213> Eucalyptus grandis

<400> 95
cttggccatt caaggaacca gttgatgctc gtgaggtccc tgattactat gacataatta 60
aagaccctat ggatttgaag acaatgacca agagggtcga atcagagcaa tattatgtta 120
cgctcgagat gttcattgca gatgtcaaga ggatgtttgc taatgcacgc acctacaatt 180
cccccgacac tatatacttc aaaattgcaa caaggctgga agctcatttc cagagcaagg 240
tacaatcgaa tctccagtct ggtgccggaa aaattcaaca gtagagcatt cggtagactg 300
gaggccctga ccttacttct ctctatatga atatgtggag ccttggatac ttactctgat 360
ccatgattgc gctggggaat taactagctt cgattgacca tgtaactgaa gac 413

<210> 96
<211> 706
<212> DNA
<213> Eucalyptus grandis

<400> 96
ctttggcttt ccttctccat ctctctcgct ctctctttgg gattcgtgtg ttctttcttc 60
tttttttgcac cacccgagat tttccgaaag ctgaagtggc cggggagtga agtttaagag 120
agagagagcc atcaccaaaa gcccgaagat catggggaga ggaaagatcg agatcaagag 180
gatcgagaac acgacgaacc gtcaggtcac cttctgcaag agaaggaacg gactgttgaa 240
gaaggcctac gagctctccg tcctctgtga tgccgaagtg gccctcatcg tcttctccag 300
cagaggacgc ctctacgagt actccaacaa cagcataagg tcaactatag agaggtacaa 360
aaaggctaat tcagatagtt caaacacaag cactgtcaca gagatcaatg cccagtatta 420
tcagcaagaa tctgcaaagt tgaggcagca gatccaaatg ctgcaaaact ccaacaggca 480
cttgatgggt gattccttaa gttcactctc tgttaaggag ctgaagcagc tggaaaatag 540
gcttgaacgc ggcatcacaa ggatcaggtc aaagaagcat gagatgttat tgactgagat 600
cgagtacctg cagaaaaaag agattgagct cgaaaatgaa agtgtgttcc tccgcacaaa 660
gatagccgag gtggacagga ttcagcaagg aaacatggtt gctgcc 706

<210> 97
<211> 396
<212> DNA
<213> Eucalyptus grandis

<400> 97
gaaaaatggg gagagggaag attgagataa agaggattga gaatgcaaat agcaggcaag 60
ttacattctc gaaaaggcgt tctgggttgc tcaagaaggc gcaggagctc tctatcctct 120
gtgatgctga ggttgctgtc ataatcttct cgaatactgg caagctttac gagttctcca 180
gttctggaat gaaacagata ctatcaagat acaacaggtg tcaagattct ccagagtcca 240
ctgttgtaga gtacaagcca gagtctacga aagaagatga taaggtggta gacaccctaa 300
aagatgaaat cgcagagctg cagatgagac aactaaggct actgggcaag gacttgaatg 360
gcctgagcat aaaggaattg cagcaccttg aacagc 396

<210> 98
<211> 379
<212> DNA

<213> Eucalyptus grandis

<400> 98
ctcgatacag ctcttaagcg catcaggacc aggaagaacc aactcatgca cgagtcgatt 60
tctcagctgc aaaagaagga aaaatctcta caggagcaga ataacgtgct ctctaaaaag 120
atcaaagaaa atgagaaggt aatgagagag agtggacaat gggagcagca aaccccagca 180
ccgaccacat cctccttcat gctacaaccc actttgcctc ttccttccct caccattggc 240
aacacgttcc agacaccgca tgtacttgga ggagcagaac aagaggagag atctcaagcc 300
cgaccagcca acacgctcat gccgccttgg atgatacgcc gttcaaatga atagagagat 360
agagaccaac aacattctc 379

<210> 99
<211> 421
<212> DNA
<213> Eucalyptus grandis

<400> 99
gtacttgtct gacttgatga gcagtgggca caagcacaag aggaggaagc agttgcagac 60
ggtggagctg aaggtgagga tggactgtga tggctgtgag ctcaaggtca ggaaggccct 120
ctcttcttta gacggagtga agacggtgga gataaacagg aagcagcaga aggtgacggt 180
gaacgggtac gtcgaccaga ataaggtgct gaagagggcc aagtcgacgg ggaagaaggc 240
ggagatatgg ccctacatac cctacagtgt ggtggctcac cagccgtaca tcgcccagtc 300
ctacgacaag aaggcacctc ccggccacgt gaggaaggtc gagccaaccg ccaccagtgc 360
catcgtgacc cggcacgagg acccttacat gaccctcttc agcgacgaca accccaatgc 420
t 421

<210> 100
<211> 460
<212> DNA
<213> Eucalyptus grandis

<400> 100
aggatcgaga acaagataaa ccggcaagtg acgttcgcga agcggaagaa cgggctgctc 60
aagaaggcgt acgagctctc ggtgctctgc gacgccgagg tcgcgctcat catcttctcc 120
agccgcggca agctccatga attctgtagc ggcccaaggt atcgcgtatt tgtatgttat 180
cacttgtttt tctcgttaat gttatgatga gacatcaggg ggagaaaccc agaactgaga 240
tcacactgtt tcattaaatt ctctcgtcca aattctttcg ggaaaccctc agatcttggt 300
gatctggatc ttggtgctgc cctaaggaga tggcgattta ttggtttttc ttcttttttg 360
ggtttcagtt tcttgactct ttttgcgatc tttccgttca ccatgaaaaa aagctttcag 420
ccgcacagtt tcttgcttcc tggggtttct gatcttctct 460

<210> 101
<211> 423
<212> DNA
<213> Eucalyptus grandis

<400> 101
gatcaatgct ggtcgctttg accagagaac aacgcacgag gagagacggt tgactctgga 60
aacattatta catgatgagg aaaggtatca agaaactgtg catgatgttc cctctctgca 120
ggaggtaaat cgaatgattg ctaggagtga agaagaggtc gagctatttg atcagatgga 180
tgaagaactg gattggacag aggagatgac caattatgaa ctagtgccaa aatggcttcg 240
ggccagtaca aaggaggtca atgctgctat tgccactcta tcaaagaaac catcgaaaaa 300
cactttgttt gctagcacaa tagtggaacc taatgaaccg gtatcggaat cagtgagaaa 360
gagggggcgg cccaagagta aaaagcatcc taattacaag gaactagatg atgacaatga 420
aga 423

<210> 102

<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 102
ttgccgccca actgaagcac agctgcgagc tactgggtga gaaggacggc gcgggcagct 60
ccggtataac caagggcgag acaccacggc tcaagttgct cgaccagagc ctgaggcagc 120
agagggcttt ccaccagatg ggcatgatgg agcaagaggc ctggaggccg cagcggggcc 180
tgccggagcg gtcggtcaac atactgcgtg catggctctt cgagcatttc ttgcatccgt 240
atccaagtga cgctgataag catctgttgg ctcgacagac tggtctctcc agaaaccagg 300
tctcgaattg gttcataaat gccagggtcc ggttgtggaa acccatggtg gaggagatgt 360
accagcaaga gtccaaagaa g 381

<210> 103
<211> 473
<212> DNA
<213> Eucalyptus grandis

<400> 103
ctctattcca ctcctaattc atgcttttcg tgacaataat tttgtagcat gctcaaaact 60
ctagagagat atcagaagtg caactatgga gccctggagc cgaacgtgtc cgcgagagaa 120
tccttggagt taagctgtca gcaggaatat ttgagactta aggcacgtta cgaagcccta 180
cagcgaactc aaaggtattg aagtttctat tgtcctttta attaaatgtc agcattcgcg 240
ggatgtagtt attttcctac atgattgggg tctatctgtg tcatcgtgaa ctaggaatct 300
tctgggagaa gaacttggcc agttaagcag caaagaactc gagtccttgg aaagacagct 360
agatgggtca ttgaagcaga tcagatcacg aagagtatgt aaattatatt cacgaattct 420
atctaagtca catcctgagt tattgtgaat acaagttact gtgtcaatcg ctg 473

<210> 104
<211> 634
<212> DNA
<213> Eucalyptus grandis

<400> 104
caaaaataga ggatgttagg gaggagatac tacggaaaag gagagccgga aaattacccg 60
gcgatactac ttctgtgttg aaaaattggt ggcagcaaca ctcaaagtgg ccatatccaa 120
ctgaagatga caaggcgaaa cttgtggagg agacaggatt gcagctgaag caaataaata 180
actggttcat caaccaacgg aagcgaaact ggcacaacaa ttcccaatcg gtcacctcct 240
tgaagtccaa gcgcaagagg taggcgcaac ggaccatcat gcttgtcttt gtgccgctaa 300
ctgaaacacg aaacttatca atcggtattg actctgatat aaccttctga tcgactgggg 360
gtatacttta tagctagagc tgaacacttg tggtggtgga tcaagcagtg atggtaagta 420
gatgattcat tatggaatta gggcctgtaa caaatgatgc aaattccagt agattacata 480
cacaaaaccc agaaaattga tgtctttttg tttggttaga agtgcttctg ttgcctaatc 540
tctcttgtat ttaggcccaa aacaaacaac atgttgattt gttttctgtt tttataaaat 600
tgttgttttt ggcagtaaaa aaaaaaaaaa aaaa 634

<210> 105
<211> 483
<212> DNA
<213> Eucalyptus grandis

<400> 105
ctccagtgga tatcacagga atgcaggcgg tgatgaccgg ctgtgactct agcaacatag 60
ccgcactgcc atccggtttc tcgatcctgc ccgatgggat cgagtcgagg cctctagtca 120
tcagctcaag gcacgaggag aagagctcag aaggaggatc actgctcaca atagcttttc 180
aaatcctaac aaatacctct cccacagcca agttaactgt ggaatctgtg gagtctgtca 240
acactctcat atcctgtaca ttgcggaata ttagaacgag cttgcaatgt gaggatggat 300

gacaacttta agttttattt aaagtagata gggataatta actgtacaac taatagggtg 360
gagaaaaatt agcagttcaa aagcaatggc ttttttttcat ttgttctttg gttggattgg 420
aaggcttggc ttggttttaa gcatgttttt atgcagaaag tggtgactgg cgggcaagag 480
aga 483

<210> 106
<211> 404
<212> DNA
<213> Eucalyptus grandis

<400> 106
tcgagaacaa gatcaacagg caagtgacgt tcgcgaagag gaggaatggg ctcctcaaga 60
aagcctacga gctctccgtg ctttgcgacg cggaggtcgc tctaatcatc ttctcccata 120
gaggaaagct gtacgagttc tgcagcagct caagcatgct caaaaccttg gaaaggtatc 180
aaaaatgcaa ctatggagca ccggagccta gcatctctac ccgggaagca caactggagc 240
taagcagtca gcaggaatat ctgaaactta aggcacgcta tgaagcccta cagcgaacgc 300
aaaggaatct tcttggggaa gaattaggcc ctctgagcag caaagaactg gagtctctgg 360
aaaggcagct cgattcatcc ttaaagcaga ttcgatccac tcga 404

<210> 107
<211> 527
<212> DNA
<213> Eucalyptus grandis

<400> 107
gctagaaaag cgatccattg gtcaggcagc agaacagctt tatctattct cttgtacgac 60
gcgcagtaga cgaagtaaca tagcccacca tatgcaagag ccgaacttgg ccatgatggg 120
cggcggtggt ggcggcggcg gcgggggcgg ggggatcgtc ggtggcggcg gcgggggggct 180
gggcagcgag gcgtcgttct cgggcgatca cccgcagcgc cagctcaagg gggagatcgc 240
cagccacccg atgtacgagc agctgctgtc ggcccacgtg gcgtgcctcc gcgtcgcgac 300
cccgatcgac cagctgccgc tgatcgacgc gcagctggcg cagtcgcacc acctcctgcg 360
ctcctacgcc tcctcggtgc agcacggcca cagcagcctc tctcctcacg acaggcagga 420
gctcgaccat ttcttggcac aatatctggt ggtactatgc agcttcaaag agcagctgca 480
gcagcacgtt cgagtccatg ccgttgaagc cgtcatggcc tgtcgtg 527

<210> 108
<211> 482
<212> DNA
<213> Eucalyptus grandis

<400> 108
cccatcccga tgagaagcaa aggcagcaac tgagcaaaca gctgggcctc gctcctaggc 60
aagtgaagtt ctggttccag aatcgcagaa cgcagctcaa ggcaattcag gagcgccatg 120
agaattctct gttgaaaaca gaaatggaga agctcagaga tgaaaacaaa gccatgagag 180
acaccataca gaaatcttgc tgccccaatt gtggctcagc caccacaagc agagataccg 240
ccttgacaac tcaggagcag caactccgaa ttgaaaatgc tcgactgaaa gccgaggtcg 300
agaagctccg aacagctcta ggaaagtaca ctccagggac ggcatcgcct tcttgctcag 360
ccgggaacga ccaagagaac aggagctcct tggatttcta caccggaatc tttgggctcg 420
acaagtcgaa gatcatggaa ttggtgaacc aagcgatgga agagctcaag aagatggcta 480
ct 482

<210> 109
<211> 343
<212> DNA
<213> Eucalyptus grandis

<400> 109

ctcttcagct gaaccctccc tctccccatc tctcttttct tgctatgacc aacgacaaga 60
acaccaggaa caaaaaaaaa aaaaagctcc aataaaaaat ctctacaggg agagagagag 120
agagcaagaa ctcaagaaac cctaaactta tctagccccg tgtcatcgaa gagagcgagg 180
gagaaggaga gggagaggga gagggagagg gagagagagg gagtggaagt ggaggaacga 240
gcgagagagg aggagggagt gtactgatta atcggtatct ttctatttat gtgcaagtgg 300
aattataata aggtggcctc tccttttctc cccttctttt tct 343

<210> 110
<211> 617
<212> DNA
<213> Eucalyptus grandis

<400> 110
ctcatccgac cttgtgaggg aggtggtgca atcattcata ttgtggatca tgttgatcta 60
gatgcttgga gtgttcctga agttctcaga ccactttatg aatcgtccaa aattcttgca 120
cagaagatga ctgttgctgc tttgcgccat attagacaaa tagcccaaga aagtagtggg 180
gagattcagt atggaggtag ccgacaacct gcagtcttga ggacgtttag tcagaaattg 240
tgcagggggt ttaatgatgc tgtgaatggc tttgtggatg acggttggtc tgttctaagt 300
agcgatgggg tagaagatgt caccattgct gtcaactcat ctccaaataa atttcttggt 360
tcccaataca atgcaaccat atttccaaat tttggaagag gagtgctctg tgccaaggcg 420
tccatgcttc ttcagaatgt tccgcctgct gtgcttgtac gctttctgag ggaacaccgc 480
tctgagtggg ctgaccatgg aattgatgca tactcagctg catctttgaa aactagttct 540
tatgccattc catgtgtgag acctggtggt ttccctagta gccatgtcat tttgcctctt 600
gcccacactg ttgaaca 617

<210> 111
<211> 380
<212> DNA
<213> Eucalyptus grandis

<400> 111
gctcttcgaa cactttctcc acccctaccc gaaggattcg gacaaagtca tgctggccaa 60
acagacaggg ctcactagaa gccaggtgtc gaattggttt ataaatgctc gagttcggct 120
ttggaagccg atggtggagg agatgtacac ggaggaaatc aaggagcaag aacagaatgg 180
gggaggagca gaggaaaaac caagcaagag tgaacgcgag gactcagcat ccaagtcctc 240
tggcctccag gacaaggccc ccaactccaa tgagaacagc accaagagct tcaaaccaaa 300
ggagatcacc tcgaggaacc acgacacccc tgccatctct actaattcgg cttcctccat 360
cgggggaaac gtccgcagca 380

<210> 112
<211> 348
<212> DNA
<213> Eucalyptus grandis

<400> 112
gacaaattga tgaaacatga atatggatgg gtgtttaaca ctccggttga tgtaaagggc 60
ctcggtttgc atgattacta tagcatcata aagcatccaa tggacttggg cagtgtgaag 120
acaaggctga accggaactg gtataagtca ccgaaagaat ttgcagagga tgtcagactt 180
acgttccgta atgccatgac atataaccct gaagggcaag atgttcatgt catggctgag 240
attctgtaca agatatttga ggatagatgg gccattatag agtcagatta taatcgtgaa 300
atgcggtttg cgttagacta cgacatgggt cttcctacac ctacctca 348

<210> 113
<211> 350
<212> DNA
<213> Eucalyptus grandis

<400> 113
ccctcatacg gaaatgggta ttctcctcca caatatggca atggacctgc atatcaccct 60
atgccaacat actacccgat gggctacagg atctgtgctg gatgcaatac agagattggt 120
catggacggt ttttgagttg catgaatgct gtttggcatc ctgaatgttt ctgctgccgt 180
gcttgcaccc tgccaatttc tgattatgag ttttctttat caggcaatta tccttaccat 240
aaatcttgct acaaggaaca ctaccaccca aagtgtgatg tctgcagtca ctttatccct 300
acaaaccttg ccggtcttat tgagtacagg gcgcatccct tttggagtca 350

<210> 114
<211> 534
<212> DNA
<213> Eucalyptus grandis

<400> 114
acatggccag aggatatttg ctcggtcaag agcgacatgt tcgattctga aagtccgcat 60
tacactgacg ctgcccactc ttcgctctta gagcccggcg attcttccta tgctttcgaa 120
cctgaccatt cggacctatc tcaagacgaa gaagataatt tgagcaagag ccttttgtcc 180
actcgcaatt acccaaagct cgaaaactct gactacgcca tcctgcctcc aaattcgtgt 240
aactttggat tccatgctga ggatcctgcc ttttggcctt ggtcatactg aaggcgtcct 300
tgatgccgtt cactcccttt gttttcttgt atcatatatg aggggatacg ctataagtat 360
gcaataagct ccatcaatag ctagcatctg tccaaatgct gtagtgagct ttctcaagga 420
agttggaacc tgtgttgatt tccttttctt taggttttgt ccttcaatgg gatcgtctgt 480
tttctatgta aactaaataa agaaaccttg tttatcaatg caaaaaaaaa aaaa 534

<210> 115
<211> 450
<212> DNA
<213> Eucalyptus grandis

<400> 115
aagaaggtaa actcgggcac agcaacagta gcaatagctt ggacaatggg aaatatgtga 60
ggtacacgcc tgagcaggtt gaggccctcg agaggctcta ccacgagtgt ccgaagccca 120
gttcactccg tcgccaacag ctgatcaggg agtgtcccat tctctccaat attgagccca 180
agcaaatcaa ggtctggttc cagaaccgaa gatgcaggga gaagcagagg aaagaagctt 240
cccgtttgca agctgtgaac aggaagctca ctgcgatgaa caagttattg atggaggaga 300
atgataggtt gcagaagcaa gtttctcagc tggtgtatga gaatggctat ttccgccaac 360
acacccagaa cacgacgctt gcaaccaaag acacaagctg tgaatcggtg gtgacgagcg 420
gtcaacacca gttgacatct cagcatcctc 450

<210> 116
<211> 501
<212> DNA
<213> Eucalyptus grandis

<400> 116
ggaagaaaat atgcagcatt tgaaggacga agctgcgaac atgatgaaga agatcgagct 60
cctggaagat tcaagaagga agctccttgg tgaaggtcta ggatcatgct cgatagagga 120
actgcaacag atagaacagc agctagaacg gagtgttatc agcattcgtg ctagaaagac 180
tcaggtcttc aaggagcaga ttgacaagct taaagagaag gagaagatgt tgacagctga 240
gaatgcaatc ttaactgaga agtgtggaat caagccccca caaagagcaa atgagtgcag 300
ggatagtcca cttctcagag agagcacccc gagttcggag gtggagaccg gtctcttcat 360
cggaccacca gagaccagat cgaggcgcct gccgtttcag aattaaaaat atagccctag 420
cctctcaaag tttcaaaatg tcacaaggca gacgggcaga aaacaaccac cgaccatggc 480
cgaagaacac caccaccacc t 501

<210> 117
<211> 372

<212> DNA
<213> Eucalyptus grandis

<400> 117
gacaaggatc cgaagagacc cgtgagggac ccggtcttcg ccgccgtccc agataagttc 60
gtcgcgagca tgatgaagcg gtgcggcctg atcttgacga aggttatgaa gcacaagcac 120
gggtgggtgt tcaacacccc cgtcgacgcg gtcgggttag ggcttcacga ttaccaccag 180
ataatcaaga accccatgga tctcggcacc gtgaagacga atctcgagag gaatttctac 240
cactcgccgc aggagttcgc ggccgacgtg aggctgacct tcaacaacgc attgacgtat 300
aaccctaagg ggcacgacgt gcatcacatg gcggagacgc tgctcgtgca gttcgaccag 360
atgttcgatc ct 372

<210> 118
<211> 378
<212> DNA
<213> Eucalyptus grandis

<400> 118
gtgagcctct cccgtgtcga gaagcacgcg tcgagcgcca tgaacaagct ccacgaagcc 60
gccatgaaag gcgacctcgc ggccctccaa gacctgctgt tgcaggaccc ccagatcctc 120
cacaagacca cttcttcgtc ctccgacggc acgcccctgc acgtttcctg cctctcgggc 180
cacgcgtcct tcaccaaaca cctcctcacc cacaacccgg agctcgccaa ggaggccgac 240
tcccgcggct ccctgcccct ccacgtggcg tgcgcgaagg gcgacgtgga gatcgtcagg 300
gccctcgtgg ccgtcgaccc ggccgggtgt ctccggtatg atcgcgaggg gaggacgcct 360
ctgcacttgg ccgccatc 378

<210> 119
<211> 414
<212> DNA
<213> Eucalyptus grandis

<400> 119
cgacgacctc gacaacgaga gggcgtcctc ccgcggcggc ggcagcgacg aggaggacgg 60
cgacatgtcg aggaagaagc tccggctgtc gaaggaccag tccgccgtcc tcgaggagag 120
cttcaaagag cacaacaccc tcaatcctaa gcaaaagctg gcactggcga agcagctggg 180
gctgcggccc agacaagtgg aggtctggtt ccagaacagg cgagccagga cgaagctgaa 240
gcagacggag gtggattgcg agtacctgaa gcggtgctgc gagagcctga cggaggagaa 300
ccggcggctg cagaaggagg tgcaggagct gcgggcgctc aagctctccc cgcagttcta 360
catgcacctt ttcccttcca ccacccttac catgtgcccc ttctgtgagc gcgt 414

<210> 120
<211> 313
<212> DNA
<213> Eucalyptus grandis

<400> 120
gccgattacg acgagggcgg cgacgacaat ccggggagcc gccacccggt gacccggcag 60
ttcttcccgg tggaggagga ggaggagctg gaagaggatg gcgagcgggc aggaatgggg 120
ggagccgcag tgccgccggg gttcccgagg gcgcactggg tcggagtcag gttccgccag 180
tcggatcacc atccaatcgg atcgggcaag ggctcaccga tattggaggg ttcacagccc 240
atgaagaaga tcaggaaagg gccgaggtcg cggagctccc agtatagagg ggtcactttt 300
tacaggcgaa ctg 313

<210> 121
<211> 415
<212> DNA
<213> Eucalyptus grandis

<400> 121
cgacgacctc gacaacgaga gggcgtcctc ccgcggcggc ggcagcgacg aggaggacgg 60
cgacatgtcg aggaagaagc tccggctgtc gaaggaccag tccgccgtcc tcgaggagag 120
cttcaaagag cacaacaccc tcaatcctaa gcaaaagctg gcactggcga agcagctggg 180
gctgcggccc agacaagtgg aggtctggtt ccagaacagg cgagccagga cgaagctgaa 240
gcagacggag gtggattgcg agtacctgaa gcggtgctgc gagagcctga cggaggagaa 300
ccggcggctg cagaaggagg tgcaggagct gcgggcgctc aagctctccc cgcaattcta 360
catgcaccta tcccctccca ccaccctcac catgtgcccc tcctgtgagc gcgtc 415

<210> 122
<211> 385
<212> DNA
<213> Eucalyptus grandis

<400> 122
ggagagccag aagctcatgg aggcggtcca gaacggcgac gtctcggccg ccgtggacct 60
cctcgaccaa gaccctctcc tcctcgacag gatcatcgtc ctcggcgtct ccgacacgcc 120
cctccacgcg gcctccgtgc tcggccacgc cgacctcgtc cgggagctgc tgcgccgcgc 180
cccccggctc gcctccgagc aggactcccg gggcaactcg ccgctccacc tggccgccgg 240
caagggccac ggcgagatcg tgggcgagct cctgtcggcc gacccggcgg cggcgtcggc 300
gcggaacctc gacgggcggg cgccgatcca cgtggcggcg atcaagggcc gggtcgacgc 360
ggtgggacgg atggtcgggg ccgtc 385

<210> 123
<211> 282
<212> DNA
<213> Eucalyptus grandis

<400> 123
gtatagcggg tatttaagta gcttgaaaca agaactctcc aagaagaaga agaaaggaaa 60
actacctaag gaagcccggc agaagctgct tagctggtgg gagttacact acaaatggcc 120
atatccatcg gagacagaaa aggtggcatt ggctgaatcc actggtttag accagaaaca 180
gataaacaat tggttcataa atcatgttat agagtgttgg gtaaagtcca tggcaaccct 240
aatgcaagaa atatttttga tgactaaggt cattcttagg tc 282

<210> 124
<211> 383
<212> DNA
<213> Eucalyptus grandis

<400> 124
gcactttcag cttcggcatc ctgaaggccg gcgagggagg tgatggtgtc gcggacgacg 60
aactcggggt gacgaggcag ctgttcccgg tgagggaggt ggatgcggat atggagtggt 120
gcggcgagtc gtcctcgctt gataagagga gcgatgtctt cttggttggt gcttgtaagg 180
aaaaggaagg tccgaggctg gcgatgccgc agcagcggag gaagagcagg aggggaccga 240
ggtcaaggag ctcgcagtat agaggggtta ctttttatag gaggactgga agatgggagt 300
cgcacatatg ggactgtgga aaacaagtgt atttgggtgg attcgacact gcacatgctg 360
cagctagacc tatgatcgag ctc 383

<210> 125
<211> 350
<212> DNA
<213> Eucalyptus grandis

<400> 125
ttccgaagat atgcagttca tggtgatgga cggtcttcat cctcaaggtg ccgctttata 60

catggatggt cactacattg gtgatggtcc ctaccgtttg ggcccgtagg ctgtcaatcc 120
atgcaccata atcggatata taggtttgat gttcttgcag ggtcctctgg tggttgcttc 180
gcctttacat tatgtgtcct agtgtatgaa ttgttagttg tgccacctga tcaaatcatg 240
ttatagagtg ttgggtaaag tccatggcaa cccaatgcaa gaaatatttt tgatgactaa 300
ggtcattctt aggtcatatc tatgtatcct cttatatgtc ttggttttcc 350

<210> 126
<211> 539
<212> DNA
<213> Eucalyptus grandis

<400> 126
gctgccttcg aaggcatgga ctcgctcccg agcccaagga agaagaagaa ccagctggtg 60
aacagaagaa ggttcagtga tgaacagatc aggtcactgg agtctatctt tgaatccgag 120
tcgaggctag agcctcggaa gaagctgcag ctcgctaggg aattggggct gcagccccgc 180
caggtggcca tttggttcca gaacaagaga gcccgatgga agtccaagca gctggagcgt 240
gacttcgcca ttcttcgcgc caactacaac gccctctatt cccggttcga gtctctcaag 300
aaagagaagc aatccttggt cactcagatt gagaaactaa accaactcgt cgagaagccg 360
caaggagagg gccagagctg cgggcatgat ttggcaacga acagcaccga tcgcgaatcc 420
gacaatgggg ttcccaagta tgaagacagt cagcctgtat ttccggataa actaacgcgt 480
ttgatgggaa tcccatgtga ggatgactac tttggcctaa agagagcaga gcctcctaa 539

<210> 127
<211> 493
<212> DNA
<213> Eucalyptus grandis

<400> 127
taacctcacg gacaagctgc ttcacaaggg aaatgagaag gagagttccg agtcgtccag 60
caaatcatct caagggctat tccagaaccc cattgctgat tctgtttctg aggacgaagt 120
gtccagagtc cccattccta catggccaga ggatatttgc tcggtcaaga gcgacatgtt 180
cgattctgaa agtccgcatt acactgacgc tgcccactct tcgctcttag agcccggcga 240
ttcttcctat gctttcgaac ctgaccattc ggacctatct caagacgaag aagataattt 300
gagcaagagc cttttgtcca ctcgcaatta cccaaagctc gaaaactctg actacgccat 360
cctgcctcca aattcgtgta actttggatt ccatgctgag gatcctgcct tttggccttg 420
gtcatactga aggcgtcctt gatgccgttc actccctttg ttttcttgta tcatatatga 480
ggggatacgc tat 493

<210> 128
<211> 627
<212> DNA
<213> Eucalyptus grandis

<400> 128
ccgagaagag gacccccaag aagagaggga ggaagccagg cctcggccgc gacacgccgc 60
tgaaccacgt ggaagccgaa cggcagcgcc gggagaagct gaaccaccgc ttctatgcgc 120
tgcgagcggt ggtcccgaac gtgtccagga tggacaaggc gtccctgctc tccgacgcgg 180
tgtcctacat caacgagctc aagtccaaga tcggcgatct ggagtcccag ttgcagagag 240
agtccaagag ggtcaaacag gaggtcaccg acgcaaccga caacctgagc accaccacct 300
ccgtcgacca tagtagccca tccggatgcg gcggttcttt gctcgaggtg gaggttaaga 360
tcgtggggtg cgacgccatg ataagggtcc agtcggagaa tgcgaactac ccatcggcga 420
ggttgatggc agcgatgcgg gacctggagc tccacataca ccacgccagc ctgtcgacgg 480
tgaacgacct catgctccaa gacgtggtgg ttagtgttcc ggaggggctc aaaggggagg 540
aagatctcag agctgcgctt cttcgggcac tggaacaatg acggtcggag aaattgccgg 600
gggagagaga gagagagtac gtactgt 627

<210> 129

<211> 385
<212> DNA
<213> Eucalyptus grandis

<400> 129
ggaagatgac aaactaggga gaaatagagc atctgcaaac gtggtacaat catcttctgt 60
aaaggggagg ccttctggtg gaactcttgt tgtatgccct actagtgtgc ttaggcagtg 120
gggtgatgag ctgaaaaata aggtttcaga gaaggctaag ctatctgtat gtatgtatca 180
tgggaccacc aggaccaaag atccatatga attagctaat tatgatgttg ttctgacaac 240
atattctatc gtaagcatgg aggtaccgaa acccgctggt tttaaagatg agaaggatag 300
tctgcaagat gatgatgatg cgtttttttgg taggaagaga aagcactctg ctaaatctga 360
gaaaagacgc ttgaagaaag aaatg 385

<210> 130
<211> 345
<212> DNA
<213> Eucalyptus grandis

<400> 130
tttcagattg tttatcaatt ggttgctaga cttcaactcc gcagattctg ctattgatag 60
tgcacatttt cagattttga cagcatttgc gaatgcattc catgctttgc aacctctgaa 120
agttccagcg ttcagctttg catggctcga gctggttagt cacaggagtt tcatgccaaa 180
gattctctca gggaactctc agaaaggttg gccttacttc cagcgcctgc tggttgactt 240
gtttcagtac atggaaccat tcttgaggaa tgctgaactt ggtttgccgg ttcattttct 300
gtataaggga acacttagag tgctgcttgt gctgcttcat gattt 345

<210> 131
<211> 766
<212> DNA
<213> Eucalyptus grandis

<400> 131
gccgtctgag gagtcttgct ctctctctct ctctctctct ctcttcttat cttcttctcc 60
cccaaaaccc catcggaccc aaaaacccta acgaagatga atagggagag gcttatgaag 120
atggcgggtt ctgtccgcac tggtggaaag ggtaccatga gaagaaagaa gaaggctgtt 180
cataagacca ccacgacaga tgataaaagg cttcaaagca ccctgaagag gattggggtg 240
aatgccatcc ccgcaattga agaagtcaac atttttaagg atgatgtagt tatccagttt 300
ttgaatccca aagttcaagc gtctattgct gcaaatacct gggtagttag tggttctcct 360
cagaccaaga agctacagga tatcctccct ggcatcatca accaattagg tcctgataac 420
ttggacaacc tgaggaagtt ggcagagcaa ttccagaagc aggtgcctgg tgcggccact 480
ggttctggtg ccactggaat gcaggatgac gacgacgacg aagtccccga gcttgtacct 540
ggcgagactt ttgaggccgc cgctgaagag ggtcaggcga ctcaggtgac tgaggcgact 600
caggtgactg aggccactaa ggtgactgag gcaactccgg cctcctagag agagggattg 660
ttattgtcat ttcaatactt gtagtgctat taaaatcctt attttctctc atttgtctgt 720
ctttccattg tacttttaac gaactgtttt aatctcgtga ggcttg 766

<210> 132
<211> 162
<212> DNA
<213> Eucalyptus grandis

<400> 132
ggatcttgcc aaaagggtga ctcctgtgag tacgcgcacg gcgtatttga gtcgtggctt 60
catcctgcac agtatagaac aagactgtgc aaggatgaga ctggatgtgc tcgcaaagtt 120
tgtttctttg ctcacaagcc cgaagaatta aggcctgtct at 162

<210> 133

<211> 518
<212> DNA
<213> Eucalyptus grandis

<400> 133
attatatcgt cgtgtctatt tcccgaaata tttgcataac tactagctgg gtcctgtcgt 60
aagccttaca ataaatctac tattagctga gtattgggtg tcgaataatt tgcacgaagc 120
cacgaactat tggcaatcga tctcatggct tcctcgagcg gaacgtcttc cgggtcaacc 180
ttgatccaga actcgggatc agaggagagt ctgcaggcct tgatggatca gaggaagagg 240
aagaggatga tctccaaccg cgagtcggcg aggcggtcgc ggatgaggaa gcagaggcac 300
ctggacgatc tgatgcttgt ggtggctcag ctcaggaaag acaaccagca gctaagggac 360
aacgtgaacg tggtgaacca gcattacatg accctggaga ccgagaactc catcttgagg 420
gtccagatga acgagctcac caacaggctg gagtctttga aggatatact cggtatcctg 480
gatgccggag atggtggcag accaggaaat ggtggcgg 518

<210> 134
<211> 413
<212> DNA
<213> Eucalyptus grandis

<400> 134
cctcgtcctc tccccccccc accggagctt cgaaatcgag cggcggcgac gcgatgacgg 60
acggccacct cttcaataac atctccctcg gcggccgcgg cggctccaac cctggacaga 120
taaagatttt ctcaggaggg atttcatgga ggagacaagg aggcggcaaa gcagttgaag 180
ttgataaatc tgacattgtc ggggtgacct ggatgaaggt gccgaggaca aatcaattag 240
gtgtccgcac caaagatggt ttacattata agttcactgg attccgagac ccggatgtta 300
ttagtttgac caactttttc caaaatacct gcgggttaac tccggaggag aaacagcttt 360
ctgtgagtgg tcggaactgg ggagaagttg atttgagtgg taatatgctg aca 413

<210> 135
<211> 278
<212> DNA
<213> Eucalyptus grandis

<400> 135
agactggggc ccatggggcc caaaactctc tgcaatgctt gtggtatccg ttacaagaca 60
ggtcgcctct ttccagagta ccgtcccagt gcaagcccaa catatgtccc ttctcttaac 120
attgtatcca atgaaatccc ttcaagccat ttatggcttt cccttcttca aaaataaatc 180
ttttcaacca ttgtcactcc cacacgtatc cgactcacag taaggttgca aaaccacgtc 240
tatgttgtcc aaccttctcc aaaagagtgg cagagtac 278

<210> 136
<211> 237
<212> DNA
<213> Eucalyptus grandis

<400> 136
ccggggtggc aatcgatgtg aagataatgg gttgggatga agtggttcga gtagagagcg 60
gacggaagga tcatcctgca gcaaggttaa tggtggctct tcaagaattg aacttggagt 120
tgcagcatgc tagtgtttct gtggtgaacg agctcatgat ccagcaagcc acagttaaga 180
tggggagtca gttgtacact caggagcagc tcaaggcagc tctattggcc gtaatct 237

<210> 137
<211> 371
<212> DNA
<213> Eucalyptus grandis

<400> 137
ccaagccgcc gatgaagaag cagaagagca agcccgctgc tgcttcggag acggccggac 60
cggcccgacg gtgcagccac tgcggcgtgc agaagacccc gcagtggagg gccggcccca 120
acggggcgaa gacgctgtgc aacgcgtgcg gggtccggtt caagtcgggc cggctgtacc 180
cggagtaccg gcccgcgtgt agccccacgt tttctagcga gctgcactcg aaccaccacc 240
gcaaggtgct ggagatgagg cgcaagaagg agtcaatgac gacgacggca ctgggtcagc 300
ccgagcccgg tcgggcccgt gcccagcttt tgagggcaag ggtgggttct tcctggcgcc 360
ctcgggaaat a 371

<210> 138
<211> 947
<212> DNA
<213> Eucalyptus grandis

<400> 138
cagggaagac ctgttccact gctaatgctg agggtcgcta agacagtgga tgcttatctc 60
ggcgagatcg ccacctacag tgaggtcagc attgcaaagt tcaatgggat tgctactatc 120
gtgcctaaag gagcccgaaa ggttgacgat gatctttatc gtgcgattga tatctacttg 180
aagtctcacc cgaacctcga tgaagatcat cgtcaacctt tcgggctcct ttaggccgcg 240
ggcctcctcc gctgtggcaa gagctgccgc ctccggtgga tcaattacct gcggccggac 300
ctcaagcggg gcaacttcac cgaagaagag gatgagatca tcatcaaact gcacagcctt 360
cttggtaaca aatggtcgct cattgctggg cgtttgccgg ggagaacgga caacgagatc 420
aagaactact ggaacacgca cataaggagg aagcttttga accgaggcat cgatccggcc 480
actcacaggc tgatcaatga gcccgcacaa gatcaccatg acgagcccac catttctttt 540
gctgctaatt ctaaggagat caaagagatg aagaacaacg cagagctcaa tttcatgtgc 600
aacttagaag agtcggcaga cgtggcatcg tcggctcgag aaaggtgtcc tgacctgaat 660
ctcgagctcg gaatcagccc tccttctcat caactgcatc agcctgagcc actcttgaga 720
ttcactggta ggaaaagtga tttgtgtctg gagtgtaatt tggggttgaa aaatagccaa 780
aattgcagat gcagtgttgg ggtgatcgag agtgaaacta gtgttgggta tgacttcttg 840
ggcttgaagg caagtgtttt ggattatagg agctgaattt tggtgaagaa gatggataat 900
tgtgcagcga agagatgagg cagagattgt tattagttga aatctgc 947

<210> 139
<211> 509
<212> DNA
<213> Eucalyptus grandis

<400> 139
caggaatcga aaaaaaccat aaaaaaaaaa aaaaaagacg cagtttttat cgcctgtcga 60
acagaaaaaa cccccccctcc aacaacaaga ttttcccccct tcaaaaagtc aagaatcgtt 120
tccccacccc gacagaaata aaaaagaaca gaaaaaaaaa cgtccagatc ccatttggga 180
gctcctcggt cgcgaccctt ttggtgattc ctcgtgcgcc cacgaagggt cctcgggtcg 240
aatatccgca gattctgggt tatcgttgtc tttcggatcg ggtttggtat attgggcgca 300
ttgggaggac gggaaaaatt caagaatgtc cgttctgtca aaaagcgatt ctgttgagat 360
tagggaggtt tgggaataca atctggaaga cgagttttcg ttcattcgcg aaatcgtgga 420
tgattatccc tacattgcca tggacaccga gttccctggg atggtccttc gaccggtggg 480
gaatttcaag agcagctccg agtctcatt 509

<210> 140
<211> 426
<212> DNA
<213> Eucalyptus grandis

<400> 140
ccatgagaag aaagaagaag gctgttcata agaccaccac gacagatgat aaaaggcttc 60
aaagcaccct gaagaggatt ggggtgaatg ccatccccgc aattgaagaa gtcaacattt 120
ttaaggatga tgtagttatc cagtttttga atcccaaagt tcaagcgtct attgctgcaa 180

atacctgggt agttagtggt tctcctcaga ccaagaagct acaggatatc ctccctggca 240
tcatcaacca attaggtcct gataacttgg acaacctggg tagttagtgg ttctcctcag 300
accaagaagc tacaggatat cctccctggc atcatcaacc aattaggtcc tgataacttg 360
gacaacctga ggaagttggc agagcaattc cagaagcagg tgcctggtgc agccactggt 420
tctggt 426

<210> 141
<211> 310
<212> DNA
<213> Eucalyptus grandis

<400> 141
tactgggaaa ctctcatgtt cttccaatct gaagagcttc ttcacaacag ctgcgtcagc 60
gaggtgattt ccagattcaa tggtccgagt tcgccggacg cggcggcgct gccggtagca 120
tctaaaagca ttgacctgga aagaaatagg aggaagaagc tcaatgaaag gctcttcgca 180
ctcagagccc ttgtacccaa gataagcaag atggataagg cttcgatagt gaaagatgct 240
attgattaca tccaagactt gcgtgaacaa gaaggaagat ccgagccgag atcgcagagc 300
tcgaatctgt 310

<210> 142
<211> 622
<212> DNA
<213> Eucalyptus grandis

<400> 142
ccggggtggc aatcgatgtg aagataatgg gttgggatgc agtggttcga gtagagagcg 60
gccggaagga tcatcctgca gcaaggttaa tggtggctct tcaagaattg aacttggagt 120
tgcagcatgc tagtgtttct gtggtgaacg agctcatgat ccagcaagcc acagttaaga 180
tggggagtca gttgtacact caggagcagc tcaaggcagc tctattggcc gtaatctgag 240
gatctttgaa ggatttcgtt caatgcaagt tggcatcgac tagacaatgg aattgaagtt 300
tctccattga aagcaagaac ctgcccaata ttttcaggtt ccgggtggtg cgaactcttt 360
gaacaatggg ctttgtttag ttgtgtggct tcgtctggta gattgaaccc ctagattgca 420
agttgaagta aatacctagt tctagcagat agtaattttt tttccacgtt gatctcctgc 480
ctgtcttcga tgtaaataga tgctccaaat ttgaaactga tggggccgtt tccttatcct 540
ttgttagctt gttctgccgt ttgttgggtt caaccaagat catgtctctt gtacaccaag 600
catcctgtaa tcaatgcgca ag 622

<210> 143
<211> 369
<212> DNA
<213> Eucalyptus grandis

<400> 143
cggaatttat agttgtctta acttagatgc tagcaatggc ggaagttctg caattgatcc 60
atctatctca agtgccattt tagacgattt ttgcacaata aaggatggac cttttccgaa 120
tctttcagat tgtttggtgg gcaacttcag ttcaagccaa gatgttcagt ctcagattac 180
ttctgcaagt cttgcagatt ctcaggcttt ctcaagacaa gacttccctg ataattcagg 240
cggtacatct tcgagcaatg ttgattttga tgagagtagc attttgaaaa acagcacatg 300
gcaacagcaa gtagccccac ctatgcgcac ctatactaag gttcaaaagg caggatcagt 360
cggaaggtc 369

<210> 144
<211> 768
<212> DNA
<213> Eucalyptus grandis

<400> 144

aagaattcga cacagtcaac tttggaatag cagtgtcgag aaacagagtg ttgctcccta 60
tgtgactggc taacatgtaa agcaggagat tgaaggcagc tccagcccag gctgtttcat 120
aaagtatacc agaagttctt gtcgtttcct ggtacagggg atagatccta gcaattctcg 180
gtacatattg gccataaatg acgaacttca gtgactcctt cgacattaaa ggaacctggt 240
acgtcatcgc tgctgccgag gtacacattc gcgagaaccc atctctcgtt ggtttccaat 300
tcgaagttcg tcgcgtcgcc ctctcgatct ttgaggaaag cgaggacagg gttgcgctct 360
gttcgcgcca tggggtcttc tgcttcttcc cagaggcccg acaaccttca agacaaagtt 420
ggccctgtct ccgtgagtga tgaagagtgg aagaaacgcc tgactccgga gcagtattac 480
gttgcccggc aaaagggcac tgagagggct ttcactgggg agtattggaa caccaagacc 540
cccggaactt atcattgcgt ttgctgtgac acacctctat ttgaatcaaa tacaaagttc 600
gatagtggaa ctgggtggcc atcttactat cagcccatag ggaacaatgt caaatcaaaa 660
ttggatctct cgatcatttt catgccacgc caggaagtcc tgtgtgctgc ttgcgacgcg 720
catcttggtc acatctttga tgatgggcca cccccaactg gtaaacgc 768

<210> 145
<211> 546
<212> DNA
<213> Eucalyptus grandis

<400> 145
gaaagaagaa gggttggtga tagaggagat agaataagaa gggatggcgc agcttatggt 60
ggacaagtgc ggggagggct tgctggtggc ggtggaggca cagaaggcgg tgccggcgcc 120
gttcctgacg aagacgtacc agctggtgga tgacccctcc accgaccaca tcgtctcgtg 180
gggagacgac gactccacct tcgtcgtgtg gcgtcccccc gagttcgccc gcgacctcct 240
tccgaactac tttaagcaca ataacttctc cagcttcgtc cgccagctca acacctatgg 300
ttttaggaag atagtaccag acaggtggga attcgccaac gagttcttca ggaaggggga 360
gaagcattta ctctgcgaga ttcaccgccg caagaccgcc caaccacaac tcacccacca 420
ccacccgcac tccgcctccc cgcttagcgg ccccactccg gccttcttcc ctttcccaag 480
ccgcctcagc atctctccct ccgactccga cgaccagcat tcctcccact ggtgcgactc 540
gccgcc 546

<210> 146
<211> 640
<212> DNA
<213> Eucalyptus grandis

<400> 146
cgcggccgcg tcgacgaaga acacctcaga atcaacacca ctccccaatt tctctctcta 60
agatcccaca cccaaccgcc accctcaatc tctctctttc tctctcttct tcagtgtctg 120
ccatggcttt ggaggccctc agctccccca ccgctccctc cgccccgttc caattcatga 180
aggactcctc ccccgccgcc gccgccgccg ccgcctcctc ctcctcctcc gcctacgacc 240
tccccctcgc cgagccctgg gccaagcgca agcgctccaa gcgcccccac aacccgccct 300
ccgaggacga gtacctcgcc ctctgcctca tcatgctcgc ccgcggcggc gccggccgga 360
ccctccccc gccgcctccc cccgcggtct cttccgaggc ggccaaggtg gcctacaggt 420
gccccgtctg cgacaagggc ttcccctcct accaggccct gggcggccac aaggccagcc 480
accgcaagca cgcctcctcc gccgcggccg ccgccggggg tgacgaccag ccgaccacct 540
cgagcacctc cgcggcgacg acctcctccg gcgtctccgg gaaggtccac gagtgctcga 600
tctgccacaa gagcttcccc accggccagg cgctcggcgg 640

<210> 147
<211> 236
<212> DNA
<213> Eucalyptus grandis

<400> 147
atcagcagca gcagatggcc gaggcaagag acgctcactc ttcttgagat cagatctcgc 60
ctcgatccca agttcaagga ggccaatcag aaaggaccct tgtgggacga agtctccagg 120

ataatgtctg aggaacatgg gtacaataga agcggcaaga agtgcagaga gaagtttgaa 180
aacctgtaca agtactacaa gacaactaag gaaggcaaag ctggaaggca ggatgg 236

<210> 148
<211> 520
<212> DNA
<213> Eucalyptus grandis

<400> 148
ccggagcccc agaggaagtt cgacacttgt catcgcccag cgcgactcgc agattcggtt 60
cgatctcgga ggggaaatcc aacttgcccg aaatagcaat cgcagcttgc agaatgggtc 120
ctcaaatgaa cttccgaaac ttggccgatg tgccagcagc cgaaagaagc accggagggc 180
aaccaggaat tcccctatta tctcgacaat cctcagtata ttccttgact ttcaatgagt 240
ttcagaacac atggagtgga ctttctaagg atattggatc catcaacatg gatgagttcc 300
tgaagaacat atggacagct gaggagagcc aactacagct acaagacatg gcgccttctg 360
gtaatggagg ggaaggaggt ggtcaagtag ggaatttgct gagacagggg tcattgactc 420
tgtcgcggac tattagtcaa aaaacagttg atgaagtgtg gagagaatta ttcaaagaga 480
cggaggatgt gaaagaaggg agtagagaag gaggtgacat 520

<210> 149
<211> 148
<212> DNA
<213> Eucalyptus grandis

<400> 149
gacttcgagc ggaaccgggc ggagggggtc gactcggccc ggttcgcgga gctgatgata 60
tcgtccggcc tactgtgcaa cgacgcggtc atctgggtca ccttccacag cgcctacgac 120
ttcgggtacc tggtcaagat cctgaccc 148

<210> 150
<211> 443
<212> DNA
<213> Eucalyptus grandis

<400> 150
cacaacaccc ccatatcagt aaacacttct cgctgctcca gccagcttct gtctcatata 60
aacactagcc ccacctcact cattatccgc ttcgctccta ctcaactgct atcgcgctat 120
cccagcgcag acgtcctccc atgaacttct ccgacaagga agtgcagctc gcgtccgacc 180
acccgaagaa gcccgccggg agaaagaagt tccgggagac ccgccacccc gtgtaccgcg 240
gggtgcgtct gcgcgactcg ggcaagtggg tctgcgaggt tcgcgagccc aaaaagaagt 300
cgaggatctg gctcggcacc ttccctactg tggagatggc agcgagggcg catgacgtgg 360
cagcgctcgc gctgagaggc cagtctgcct gcctcaactt cgcagactct gcgtggcggc 420
tgcccaagcc ggcatcgacg gat 443

<210> 151
<211> 341
<212> DNA
<213> Eucalyptus grandis

<400> 151
ggcatggaca gtaggacttc gagtcgcatc tctggggtga ctcttcagga ggtcccgcca 60
acttctagcc aggttcctga gattccacca gctttggggg cctcagcaaa tgatccctca 120
tctgccgtat ctgaactaaa ggctccgtca cagggtactg ctaaggtcac tactaaccag 180
tttccagata tgggtatgct cgcaggagca caggagtctg aagcagtctc cgttaatcag 240
gcagataccg ttatgactgg gatctctcaa acacaagaca tggtgctgga ggatattgct 300
aatatatcca gagatgacta catgggagca gatctgcata a 341

<210> 152
<211> 603
<212> DNA
<213> Eucalyptus grandis

<400> 152
gaaaagcgta cgcgaggagg cagcatgcgt ggctcaccgg agctaatgag gttgatagca 60
agactttttc gagagctatt cttgcaaaga gtgctcgtat tcagaccgtg gtttgcatcc 120
ctcttctaga cggcgtagtg gaatttggca ccacggaaag ggttcaagag gacatttcac 180
tcgtcaatca tgtcaaaacc ttcttcgttg accaccaccc ccctcaccca ccgaaacccg 240
ccctttccga acactcgacc tccaaccccg ccgccacctc gtccggccac caccgcttcc 300
actccccgcc cgtcccctcc tacgccccgg ccgatccacc cgctgcagcc aaccaagggg 360
atgaggagga agaggacgac gacgacgacg aggaggaggg agagtccgac tccgaggccg 420
agaccggccg gcaggggggcg gcggcggcag cgcagaaccc tcacggcgca gggcccgcaa 480
acaacgccga gcccagtgag ttcgagatgt ctgaggacat ccggctcggc tcgccagacg 540
acgggtcaaa caacctggac tcggacttcc ccatgctgac cataaactcg acggccgcgg 600
atc 603

<210> 153
<211> 984
<212> DNA
<213> Eucalyptus grandis

<400> 153
gggatgggtc ctgtagggag ccgaaagatg gagaagaatc cgaagcgact cgaatcctta 60
atttgagact cgaggacgag ggccagcaga ggatgaggaa acgggtgctg gacaagttgc 120
acaccgtctt tggtgggtcg gatgaggaca attatgctct cggcttggac cgggtgacgg 180
acatggagat gttctttctg gcgtccatgt acttcttgtt tccctcggga gaagggggtc 240
caggcaaatg ttttgcctcg gagaagcatg tatggctgac agatgcactc aagtcgtctt 300
ctgattattg cgttcggtca tttcttgcaa agtctgcagg gattcggaca atagttttgg 360
ttccgactga cgttggggtt gtagagttgg gttcggttag atctgtcccg gaaagctcgg 420
agctggtgca gaccataaga ttgtctttct cgacgaattc atttatgtcg gttaagccaa 480
tagctgcctt acccatgacg aatgaaaaga aggacgaaaa cgcacccttc tctaatttgg 540
cgttggcagg taagggtgag gcaatctcca agatatttgg taaggagtta accacagtta 600
acagtcctgg ccattatagg gagaaacttg ccgttagaaa gatggactcc aggcaatcgt 660
gggaacctca ccataacgga agtaaactcc cattttcaac tcctagaaat ggcacccaag 720
acacgagttg ggctcatcat gctcatggcg taaagcagtt gagtcctgtg gaattttatg 780
gctctcaaac ctcagccagt aaattagagg agcggatgaa cagcggtagg aatgattttg 840
gattgaaccg ctacccaaca ccaaagcagg tgcaaatgca aatcgacttt acaggtgcca 900
cttcaaggcc ttctgtgata acccgaccat tcactgccga ctctgagcat tctgatgttg 960
aagcttcatg caaggaagag cagg 984

<210> 154
<211> 1144
<212> DNA
<213> Eucalyptus grandis

<400> 154
ccgaactgga ctcccatctc cggcgagtga aacgatcgag gaggaggagg aagaagcgac 60
gatgatgatg atgacgatgg ccgccggcgg cggcgaccac cacgcccgct ccaccccgac 120
cgtccagatc ccccccgtgt gggacccgct cgacgacccg gccaccggcg gctgcggcgg 180
gccgtactca ccgtactccc cgtactcccc gtactccggc ggcggcaatg ccggcggggc 240
cgcgggagga ggggagtgct gcaacgacct gacggcgttg cggcggttcc tgccgtcgaa 300
ccaccaccag gacgaggagg acgaggagga cgggcgggcg cccggggagg acggcgtgct 360
gggctgcgac gagttccgga tgtacgagtt caaggtgagg aagtgcgcgc gcgggaggtc 420
gcacgactgg acagagtgcc cgtacgcgca ccccggcgag aaggcgcgac gcagggaccc 480
gcgccggttc ttctactccg gcactgcatg tcctgatttc cgcaaaggcg cgtgcaagaa 540

gggtgacacg tgcgagttcg ctcacggcgt gttcgagtgc tggctccacc cggagcgata 600
ccggacgcag gcgtgcaagg acgggcaaag ctgccgccgc cgcgtctgct tcttcgccca 660
ctcccccgac cagctccggg tcctccccgc ccaccagcag cagcagcagc agcagcagca 720
gcagcagcac agtcccaaga gcgccaccga ctccgagttc gggtccccgg tccgcccctc 780
cgctgccgcg gcggcggcct tcgactccta cttcaccaag ccgtggtcgg cctccttcat 840
atcctcgccc acctcgatcc tgaccacctc gtcgcccccg atctcgcccc cgaccaactc 900
gcccccgatg tccccgaacc aacgcggcgg ctgctgcggg tcgcccggat cggtgagcga 960
gctggtggcc tgcatgagga atatgcagat cgccaagatg aagatgagcc cccgcgggca 1020
gatggggggg tctctcttcg ggtccccgct ccgacccggg tgccaccttg cggcgccggt 1080
gactcccagg gccgagtctt caccgcggta cgggcaactc ggcggtggag gtggaggcgg 1140
gctc 1144

<210> 155
<211> 238
<212> DNA
<213> Eucalyptus grandis

<400> 155
tattgataag atggcggaag caccggcgag tccgatgggc ggtgggagcc acgagagcgg 60
cggcgagcag agcccgcagt tcgggcggcg tgagggagca ggataggtac ctgccgatcg 120
cgaacatcag ccgcatcatg aagaaggcgc tgccggccaa tgggaagatc gccaaggacg 180
ccaaggacac tgtccaggag tgcgtctccg agtttatcag cttcataacc agcgaggc 238

<210> 156
<211> 950
<212> DNA
<213> Eucalyptus grandis

<400> 156
gacgcttccc tcctccccca tcccggccat ggcgaccccc gacgaacgcc cctcctcctc 60
ctcctccgcc gcctccgccg tcgccatccg ccaggtctgg gcctggaacc tcgacgccga 120
gttcggcctc atccgcgacc tcatcgaccg ctaccccttc gtctccatgg acaccgagtt 180
ccccggcctc gtcttccgcc gccccgccgg cgccggcgcc ggcgcccgcc cctccccctc 240
cgaccactac cgcctcctca agtccaacgt cgacgccctc tccctcatcc aggtcggcct 300
caccctctcc gacgcccgcg gcggcctccc cgggttcatc tgggagttca acttccggga 360
gttcgacgcc gcccgcgacc cccacgcgcc cgactccatc gagctcctcc gccgccaggg 420
cgtcgacttc gaccgcaacc gcgccgaggg gatcgactcc gcccgcttcg ccgagctggt 480
gatgtcgtcc ggcctcgtct gcaacgacgc cgtcagctgg gtcacgttcc acagcgccta 540
cgacttcggg tacctggtca aggccctcac ccgccgcgag ctccccggcg acctcccgga 600
gttcctcgcc gtcgtgcggg tgttcttcgg ggaccgggtg tacgacgtga agcacctcat 660
gcggttctgc cacagcctgc acggcgggct ggaccgggtc gccgccgccc tggagctgga 720
ccgggcggtc ggcaagtgcc accaggccgg ttccgacagc ttgctgacgt ggcaagcgtt 780
caggaagatt agggacgtct acttcgccaa cgacgacggg ccggagaagc acgccggcgt 840
gttgtacggc ctagaggtct attaggatca atccccaaaa ttcaattcat tcttttgtac 900
cgtaccaaat ttgtgggtac atttgtgaa tattgttcgg tatcttattc 950

<210> 157
<211> 272
<212> DNA
<213> Eucalyptus grandis

<400> 157
gtcctgtctg gaggtcttct gagctgagag atttaaaagg tctgtaaaag attcaaggtt 60
tcttctaccc agaggaaaga acctacttct tcctttatca cccatgggtt cttaaacctc 120
gtgacagtgc aatttaaaca ttagagcaaa acataaaaaa agaagagagc tgttcaaatg 180
gctactggcg tagaaggcaa tgaaggtgtc ccagcaaacc tgagaaagca gcttgctgtg 240
gctgtgagga gtatccaatg gagctacgca at 272

<210> 158
<211> 863
<212> DNA
<213> Eucalyptus grandis

<400> 158
```
ttctactcca ccttcatctc acaataaaaa ccagcagtcc agcacgagca cattatccac      60
ttccactcca gaactcaagc gcagacgtac tccaatgaac cacttcttct cttcttactc     120
cgatcccagc tcctgcagcc tcgactttgc tgaagcgtcg tcctcctcgt cgccgctgtc     180
cgatggcagg agtgctatgg tgcccgggaa cttttctgat gaggaggtgc tcctggcgtc     240
gcaccagccg aagaagcgcg ccgggcggaa gaagttccag gagacgcgcc accccgtgta     300
ccgcggggtg cggcggcgaa gctcgggcaa gtgggtctgc gaggtccgcg agcccaacaa     360
gaagtcgagg atctggctgg gcaccttccc caccgcggag atggctgcga gggcgcacga     420
cgtggcggcg ctcgcgctga ggggccggtc cgcctgcctc aacttcgcgg actccgcgtg     480
gcggctgccc gcgccggcgt cggcggacgc aaaggacata cagcaggcgg cggcccaggc     540
tgcggaggcg ttccggccgg cggagtccga ggctgaggac gtgatgtcgg ggtacgagaa     600
gaagtcgcct tcggaggagg gaatgctgta cgacgacgag gacgtcttcg ggatgccggg     660
gttactcacg aatatggcgg aggggatgct cttgcctcca ccacaatgcg gcggagatgg     720
gtacggcgga gaggacgacg ggaatctgga tgcatacgtg tcgttatgga actattccat     780
gtagtcattt ctcaatttca gttgtacttt ttgtggttag ggacgactgg gatgccgact     840
aaaatatttt tgaatggagt gcg                                             863
```

<210> 159
<211> 936
<212> DNA
<213> Eucalyptus grandis

<400> 159
```
gggtggctta ggcttactat agagagggat aggagagaga gagacaggag agagagggac      60
aggagagact ttgttgttgt tgttgctgct gttgttgtgg tggagtgtgg aggaaggagg     120
aaggaaggga ggagaaggtc tcaagagggg agacatgttc agcttgatcc caacagttcc     180
attctttgct tcttccctcc tgaccagatc cttcaccagc tgatatctga atgagctgag     240
gagagttcat ttcttgttca ctgtctactt gaatttggat cactttgtaa attgctggaa     300
ttagatgcct ataagaatcc agaacttgcc aaagaaaaat ttcgatcaag gttcgagcct     360
ttcgatgcct catgtcgggg tgacttaccc accatggtgg agcctgaatg aacagcaact     420
tccgcaatct ttacccaaaa atagtggctt gaaagcggaa tctccaccca tgctccatca     480
tcaagcaaag catttaggtc ttcaactaca agaacaggaa tcgtcttcaa ctcaatcggc     540
tggcaattct tgccatgaag tgagcgtcgt gggtggggcc aactctcaag atcaaagcat     600
ttcatctgaa tctggtcaag atgaaagttg tggcaggagc tttgagggcc agacaaagcc     660
aattttcatg ttcaacaatc cggagattgt cttcaattct tcactagctg atcaaaatca     720
acctctgatt cgtgttccat atccaccagt cgatccttat tacggtgggc ttctgactgc     780
atacagacca caggctatta ttcaatccca ggtaggatct caaatgttcg ggatggcacc     840
tggacgtgtt ccattgccac ttaaccttgc agaccatgga ccaatctacg tcaatgcaaa     900
acaatattca cggaattctt cggaggaggc agtcac                                936
```

<210> 160
<211> 281
<212> DNA
<213> Eucalyptus grandis

<400> 160
```
agggctatgg gtttgttagg ttcggcgatg agactgagca gttacgggcc atgaccgaaa      60
tgaatggcat gtattgttct tctcgcccca tgaggattgg gcccgctgct aacaaaaagc     120
ctattgctac ccagcaatat cagagtgcat cttaccagaa cagtcaagga aaccaagggg     180
agaatgatcc aaataataca actatatttg tcggggtctt ggatccaagt gtatcagatg     240
acctttttgag gcaagtattc agtcaatatg gagagttgca t                         281
```

<210> 161
<211> 291
<212> DNA
<213> Eucalyptus grandis

<400> 161
ggatacagaa gaagtgccaa gaaatgcaag gagaagttcg agaacgtcca caagtactat 60
aagaggacca aggaaggccg tgctggtcgt caagacggca agacctacaa gttcttctcc 120
gagctcgaag ccctccacaa caccgccgcc ggggccaccg tcggaatatc aagcagcttc 180
aagtggtggt ggtgctgctt ctggcactgc agccctgggc ggtctctcgg tacccccagt 240
ttcgatcggg atatcgttcg ccaaccccgt cccaatctcc actgtccgcg g 291

<210> 162
<211> 743
<212> DNA
<213> Eucalyptus grandis

<400> 162
cctctttccc ctcagcgaat ggagatggaa gatcaccacc agtacaccgc ggcagatttg 60
cggcacctca tcaacgcccg tccacctcca cccccaccgc acatccagtc gatctccccg 120
cctgagctat tctgcggcgg cggcggccac cggaacccga cgcagcactt ggagtcgatg 180
atgatgggtg gcggcggcct tcacaacggc caacgccaag gccacagcca caaccatcaa 240
caccaccacc agtttggccg tgatcattct tctccctctt cggtcgccat ggctggtgcg 300
gcagggggtt tagagagtga gaacggcgga aatgggagat ggcctaggca ggagactctc 360
acgctcctcg agatcaggtc gaggctcgac tctaggttta aggaggccaa ccaaaagggt 420
cctctttggg acgaagtttc aaggattatg tcggaagaac atgggtatca acggagcggc 480
aagaaatgca gggaaaaatt cgagaacttg tacaagtatt acaagaagac gaaggaagga 540
aaagcgggta ggcaagacgg taagcactac aggttctttc gtcagctcga agctctctac 600
ggagagaacg ccaattcgaa ttccatcctc caagctccat ctcttccaca ctcactccac 660
tttcatcctc cacccaacat caatgatatt aaccaagatg cgtctcatca tcgtcatcct 720
catcaactgc agagaccgtg cga 743

<210> 163
<211> 394
<212> DNA
<213> Eucalyptus grandis

<400> 163
ctcaaataca caccgacaaa aaaacaagca ttgtcagaat gtcaattcca aactgatttt 60
ttcggcacga gcgagtctga atggaacgcg gcgatccgaa cgttgtcgcc gtcgccaggc 120
tgaggaggga agactgcgaa cgaaccaagc acgactccgc gttcgccact tggaaggtgc 180
tcgtaggacc tactgattgg gaagattatt cattggggaa ggaaggtgct gccaggtacc 240
gggttcataa cctccccgaaa agcccggggc cggggatata tgagctcggc gtagccgctt 300
ctcatgccaa attgggtcgt gagatcgcca agctcgaccc gcgatatata gtcgtggttt 360
accttgggaa ggcggactgt gtcaggacca gact 394

<210> 164
<211> 1017
<212> DNA
<213> Eucalyptus grandis

<400> 164
cacctctttg ctctttcttc cacacggtca ccactttccc ctgcaactcc ccccttctct 60
aaagcccttg cgtgcgagag atattccatg gattagggct ttccagaaag taaaacaacc 120
tccctcagct cctcttcacc actggttttt gagatgatct gtgtgctcgg cgccgttgat 180
tattatgtct tattctgact tgctgaacct gctgtttgcc gtgggcgttt ggtgcaccgc 240

gtatattgcg gctgccgttc tcgagtcgct ccgggtcttc catactctct gttcgttttg 300
atttcgatag ctgttttcga aggctaagat gggctacgca cagctggtca tcggccctgc 360
cggcagtggc aagtcgactt attgctcgag tttgtatcaa cattgtgaag ctattgggcg 420
gacaatacac attgttaacc tagatcctgc agcagagaac tttgactatc ctgtggccat 480
ggatatcaga gaactcattt cattggatga tgttatggag gaacttggac taggcccaaa 540
tggtggcctc atgtactgca tggaacatct tgaggaaaac ctggatgatt ggctcactga 600
ggagctggat aactatttgg acgatgatta cttagtattc gactgcccag gccagataga 660
acttttctca catgtgccag tgcttcgaaa ttttgtggag catttacagc gtaagaactt 720
caatgtctgt ggggtatact tgcttgattc acagttcatc acagatgtga ccaaatttat 780
cagtggatgc atggcatctc tctctgccat ggttcaactc gaattgcccc atgtaaatat 840
cctgtcaaaa atggaccttg tgaaaaacaa gagagatatt gatgattact tgaatccgga 900
acctcgagtg ttgttgtcag agttgaacca aacaatggct cctaagtttg agaagctcaa 960
taaagctttg gcagaactgg tggatgaata tagcatggtg agcttcatac ctctcga 1017

<210> 165
<211> 376
<212> DNA
<213> Eucalyptus grandis

<400> 165
tatccaacca ttatttatcg tccctacagt tttatggcca aaatcagcgc cgtggagcgc 60
ggacattttc tgacggtgat cccgcatttt gcctggcgac tggtgaatcc ggcaacgctg 120
aaatattttg atgcaccgca caggccgatg tatatgcagg aatatcttta ttcaatcaga 180
aatcatcgtt ataccgccac gatgcttcag catattgctg aagatcgtga cgggacgagt 240
cattaaccca gcatcgagcc ggttgcaatt aaattacggt gtaagtcgaa gacgtggcta 300
agatcgtggt gaatatgtcc gccaggcgca ttttccagat agcgatgcag ataatcccga 360
tacataggat gtgcac 376

<210> 166
<211> 689
<212> DNA
<213> Eucalyptus grandis

<400> 166
aaatagaaga agaagaagaa gaagaagagg atgatgatga cgattgatga ggtaagagac 60
gtcactggtc aatggtcatg cgctgaagct ttctaccttt aatgcaagca tcgatcgtct 120
cggcgacgtg ctctgcttcc tcttcactgc tggtcagttc atatgcatcc acgcgtagtt 180
gtcttcaagc gacgcatgca ctgattgaag cgtcctcata ggcttgtgag atgatccaag 240
acctttcact gcttgtgata ctctttataa aggacgaggg atggtcttga tgaatcagcc 300
catctagaga ggcttccacc atatcacagt ttggacttgt gccaatgcca aaaggttcaa 360
gcataaagat gggagttcca ctgcaacatt ctagtggtat caaacaattg aatgttcatt 420
ttcaagagcg ggacttgtgt tctactcaat caaccagtca atcattcagt gaagtgccta 480
atataggagg aagtactgac tgtagccaag ccacagtttt agaacagaca gaacatggtg 540
aaactgaagg gcaatcagtg agaggacaag caaaatcagc cttgtcaatg ggaactcagg 600
atttagtctt ccaaccttta gaggtgtgca tcccactcca ctatgctgaa ccatccttgg 660
gtggttttat gcccgctgct tatgggcca 689

<210> 167
<211> 1566
<212> DNA
<213> Eucalyptus grandis

<400> 167
tatctctagc ttagcttgga gcttacctac tgtactctgc ttttcccccc cctctctctc 60
tctctctcgc tctgaacgtt tttcagtcat cgagccgagc tgaactcctc tccccctctc 120
tctctctctc tctgggtgac ccttcttccc ttttctctgc gcttccgtcg aagtgaaaga 180
gggcgccgag gttgtcgtcc gagatgcgtc ggagaaggac ctctctcctg atttcatgag 240

accgaccacc acactatgaa agatctaagt ttgaggcaat gggaagtggt gtctacacct 300
ggcaatgaag gaaagacagc gttggagagc tgaagaggac gccttgttac gtgcatatgt 360
gaaacagtat ggcccaaggg agtggcacct tgtgtctcag cgcatgaaca ctccccttaa 420
ccgtgatgcc aagtcctgct tagagaggtg gaagaactac ctgaaaccag gtataaagaa 480
gggatccctc agtgaggaag aacagcgtct tgtcatccag cttcaggcga aacacggcaa 540
caaatggaag aaaattgctg ctgagatccc gggccgtacg gctaagagat tggggaagtg 600
gtgggaggta tttaaagaga aacagcaaag ggagcaaaag gagaacaaag gtgctttacc 660
aattgacgag gggaaatacg atcatatatt agaaaacttc gccgagaagc tagtgaagga 720
gcgatcgacc ccagcacttc tcatggccac agcaaatggt ggcttcattc acaccgattc 780
acctgctctt gctccaactc ttctacctcc atggctttca aattctaatg gcaccccaac 840
tctgaggcct ccttcaccgt cagtaaccct tagtctctcc cctgcaacag ttccagcatc 900
tcaaccgatt ccgtggctgc aggcagatag aggactcgat agtggttctc tctcactgac 960
tggtttgccc aaccatggtc cactccctac ttcaggagaa aatatcttaa tgtctgagct 1020
tgcagagtgc tgcaaggaat tggaagaagg gcaccgtgct tgggctgcac acaagaagga 1080
agcggcatgg aggttgaaac gactggagtt gcagttggag tcggagaagg cgtgcaggag 1140
gagggagaaa atggaagaga tagaggcgaa aatcaacact ctcagggaag agcagaaagc 1200
ttctttggat aagattgaaa cagaatacag agagcagctg gcaggattga ggaaagatgc 1260
agaatccaag gagcagaagc tggctgaaca gtggacggcg aagcatgttc agctctctaa 1320
gttaatcgag caaatcgggt ttagaccccg gattgcagat catgacaggc agtgagagtt 1380
accgtgagtc gtagtccttt atatacacgt ctctttcttg tgccaatcat gtcattcaag 1440
tctgcttatt agaattccaa gactcccttt tcctacccaa caaacaccta cctttacgta 1500
tatctcaata acattacaga gcttctcatc ctcagctaag tcctctgaga cattttgtat 1560
ggaaat 1566

<210> 168
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 168
agggtctgga ttcctgttcg gtcgaggagc tccaacaaac agaaaaccag ttggaaagaa 60
gtctaaccaa gatcagggca agaaagaacc atttaattag ggagcatatt gagcggctaa 120
aagcagagga gcggaaacta ctggaagaaa agagaaagct acttcaagag attgaatgcg 180
gcaaaggatt gaccccggtc tccagcgaac cgcctcgtga agaaatccgc gcggagtcta 240
tggatgttga gaccgagttg tttatagggc caccgaaaag atgaaccgct cagttgcccg 300
ttctgcgatt gctcaaaata atgaccatag caacggaaac gcttcttctg ctgctctttt 360
cttcttcaat cgtgaggcaa g 381

<210> 169
<211> 331
<212> DNA
<213> Eucalyptus grandis

<400> 169
ggaggatcca gtgggtcggc ccgagagtgc cagtgagatt agccaagagc cgggtcaaga 60
gtttatggat gaagacgagc tcttgaacat gccgaaactg ctggacgaca tggcggaagg 120
aatgctggtg agcccaccga ggactcagat ggcctcagag aacgactcgc cggaggactc 180
agatggtgga gagagcctgt ggagttatcc ctaattttag aaggtgagat gatcagggct 240
tatcaattac agtagtcctc attgtagaca tatacgaata cgatatccat tgtatatgat 300
caggatttcg tcatgatggt tgatcgcatc c 331

<210> 170
<211> 950
<212> DNA
<213> Eucalyptus grandis

<400> 170

ctggtttcga ctcatctctc tctctctctc tctctctctc tctctgatga gctttctctc 60
ccttggtgcg tgatgtgtgg aggcgccatc atttccgact tcgtcgagga gcggctcgac 120
cgccgccgcc ccgggagctg ccgccccgag aggaagctga cccctcacga gctctggtcc 180
gagctcgacc ccgcctccga cctcctcagc ctcgacggcc ccgtggccca aggccacccc 240
aacccttctct ctctcgtcgc aaaccaactc aaccaagtga tgaagagtga agagaagaac 300
agtgaggagg cgggtcacgg acacgtgtcg gagacccaga agagccagag caatggccgg 360
agccagaggg ctcgcaagaa cgtgtacaga gggatccggc agaggccgtg ggcaagtgg 420
gccgccgaga tcagggaccc ccacaagggc gtccgcgtct ggctcggcac cttcaagacc 480
gccgaggagg cggcgcgggc ctacgacgaa gccgccaagc gcatccgcgg cgacaaggcc 540
aagctcaact tctccggccc cccggccccg gcccagccgt cagctaagaa gaggtgcgtg 600
gctcctgacg agccgaagga tgaggccgga gctgcaggat gtgagctgaa ggagcggatc 660
gccagcttgg aatctttcct ggagctggag ccaaccgagg agccgctcga gccgggcacc 720
gggccgtccc cggctgatct ctggatgctc gaagacctcg tcactcatca ccagcaccgt 780
ttcgataacc agcttgttta ttagataata actgagtttg atcactgatc atggtacttt 840
aaactcgtgt tctagctttg ggatgcttaa ctatgccatg ttttagacgt gtaagaaccg 900
ttgtgctttc gagtgccatt aatacagtac caagtatcgt aaaaaaaaaa 950

<210> 171
<211> 376
<212> DNA
<213> Eucalyptus grandis

<400> 171
ccagcagagg ctgctgcagt actggagtga cgcgctgaat ctcagcccga gggggaggat 60
gatgatgatg aatcggttgg ggcccgacgg caggccgatc ttccggcctc cgcagccgat 120
aaacaccacg aagctctatc gtggagtgag gcagcggcat tggggcaagt gggttgcaga 180
gattcgcttg ccgaggaacc gaacccgact ctggctcgga accttcgaca cagccgagga 240
tgcagccctg gcctatgacc gcgaggcgtt caagctacga ggggagaatg ccaggctcaa 300
tttccccgag cttttcctca acaaggacaa ggctgaggaa tccgctggtc caagctcgtc 360
atcttcgtca cccccc 376

<210> 172
<211> 427
<212> DNA
<213> Eucalyptus grandis

<400> 172
tgtccatacc ctctgtggga cttctggttc aatataaact cctcaaccca gcttcctcct 60
attcttcatg catcatgatc caagatatgt cacagggttt taggaagatt gatactgatc 120
gatgggagtt tgcaaaccga ggttttcagg aagggaagaa gcacttgctg aagaacataa 180
ggaggagacg caaactcagc gatcatagga caacatcgag tagtaccgtt gcttcggatt 240
acccagaggc tggaaaggaa gctgaacttg aaatgcttaa gagggaccag gaagcgttga 300
aggccgagat cctgaaacta agagaagagc gggagaactc gcagcatgag atcaaccagg 360
tcatcgagcg gtttcgctat gccgagtgca ggtgtcggcg gatgttcctc ttcctctcca 420
aagcagc 427

<210> 173
<211> 607
<212> DNA
<213> Eucalyptus grandis

<400> 173
gaaacacctt ttgaataaca tctaccgacg caaaccaatc catagccatt cggggcaggg 60
tgctcggtta tctgattcgg agaaacagat gtacgaggag gaaatcaaga gactgcgaca 120
cgagaagagc tcgcttcagt tggagcttca aagatatcag ggagataatc aggatgttga 180
tttccagata cagttactac gtaagcaatt ccaaaatatg gaacaaaaac agacgcactt 240
gatcaccgtc ttagctcaat taatgcagaa gccagtattt gcttctcttt ttacgcagca 300

gtcggatagc cctaccaaaa agagaaggtt ggcggaactg gatcatttac atgactcaga 360
tgacaagagt gggctagaga gtttgaaatt ccagaaagaa aaattcaatg gtgttccctt 420
ttctctacta gatttggact ccgttgagaa actggagcag tctttgcact ttttagaaaa 480
tctccttcaa ggagtcgata acacttcagg cgcagaacag cacgacttcg gagcaatatc 540
gttgccttgg ccggcgggtt tcaccgagag aaaggaatct ttggatgatt ctgacaggca 600
tatccac 607

<210> 174
<211> 719
<212> DNA
<213> Eucalyptus grandis

<400> 174
atcggattga cttgcctttg aattcctcct cctccgggga aaattccaca ccgaacttcc 60
gctttggggg ggccgccgga aatctagggc tccgctccgc cgtcctcctc cgtcgtccgc 120
aggtccatct cggtttcaaa tgctgttata tttttgatcc aacatattgt cggagagcaa 180
tagaatctgg cgttatgcag ccaaaatcta aaatttcaaa cggggtagat gctcatccac 240
atagcatcca gactagtgca gtattcactg aaccctggtg gcgtggctat aatactattt 300
ccccagctga cccaggaaga aacgaaaccc atgcgccttt aggatgcata aatggtggtt 360
cagagtccaa tggtggtcaa tcacagtcaa atgaggaaag ggttgaggaa gatgatgatg 420
acgataatgt caaaggatca gggaaccctg catgttcagg agcagttgga aatcaaggac 480
aagggcctca aaacgggcat ggtgctccca ctattattac aatgcgtgat gatggccttg 540
cacaacctcc ccagctagag cttgttggtc acacaatcgc atgtgcatct aatccttatc 600
aagatccata ttatgggggg ttgatggcac aatatgggca tcagtcaatg gcttatcctt 660
ttgtcggtat tcctcatgct aggatgcctc tgccccttga cctggcacaa gaaccttgt 719

<210> 175
<211> 570
<212> DNA
<213> Eucalyptus grandis

<400> 175
actggggcca atgagaagga ttctgtgatg gaaattacat ttcacgtgcc caactccaac 60
acccaatttg ttggtgatga aaatcgtcct cctgctcagg ttttccgtga cagaatcatg 120
tcagtggcag atgttggggc tggaggtgaa gatgctgttg ttacatttga gggaattgcc 180
attcttactc caaggggtcg ctacagtgtt gaacttcatc tgtcattctt gcgacttcaa 240
ggacaggcaa atgactttaa aattcagtac agcagtgttg ttcgcttatt tttgctgcca 300
aagtctaacc aaccacatac atttgttatc atcactcttg atccaccaat tcgcaaaggg 360
caaactttgt atccgcacat tgtgatgcag tttgaaaccg actatgtggt tcaaagcaca 420
ttgtctatga atgatgattt atttaacacc aagtacaagg acaagctgga accatcttat 480
aagggactca ttcatgaagt gttcaccacc atcttgcggg gtttatccgg tgccaaagtc 540
acgaaaccag gaaaattccg tagttctcaa 570

<210> 176
<211> 754
<212> DNA
<213> Eucalyptus grandis

<400> 176
cttgaaacaa gtggtaatcg cctggcaagg gcaatctctg atgccgatac ttctagtgca 60
gcagctctaa tggatatgct ggagcaaatg gtgtcggtta tgggcgaccc aattcagcgt 120
cttggtgctt acctcttgga agggcttagg gcgaaattga aattttccgg gagcataatt 180
taccgaaagc tcaagtgcga agaacctacg agctcagaat tgctgactaa catgcaggtt 240
ctctatcaga tctgccccta ctggaagttt gcatatgtgt ccacaaatgt catcatcacc 300
aaagccatgg aaaacgaaca gagaattcac attgtcgatt tccagattac acagggcagc 360
cagtgggtca ctttcatcca ggccctcgca cagaggcctg gtggcccccc cctcctccgc 420
atcactggca tcgacgattc tgattcagtt catgctcgtg ggcgggact ggagattgta 480

gggcagaagc tttcggaaat cgcagagtca tgtaacgtgc cgttcgagtt ccatgatgca 540
gccgtttctt tatctgaggt tgagctacag aatcttatga ttcggcctgg ggacgctttg 600
gcagtgaact gtccttacat attgcatcac atacccgatg agagtgtgag cactcagaat 660
caccgagacc gggtgttgag actgatcaag agtttgtcgc cgagagtggt gaccctcgtg 720
gagcaagaat ccaacaccaa cacatcctca ttct 754

<210> 177
<211> 525
<212> DNA
<213> Eucalyptus grandis

<400> 177
ggaaattggg atgaacctac gaaggaagaa gttaatgaac cagctgatat agctgaagca 60
aagactgtca gtgattcaga ggaagcaaaa cctaatgcta agagaaaaca gcctgagaag 120
gaagcttctg agaaggaagc ttcaaagaag gaaccaaaca aaccacccaa tagttggttt 180
gatttgaagg ttaacacaca tgtgtatgta actgggttgc ctgaggatgt cactatggag 240
gaagtggtgg aggtttttc caagtgtgga atattaaagg aggatcctga aacaaaaaag 300
cctcgtgtga agatctatgt tgacaaagaa actggaagaa aaaagggaga tgcacttgtc 360
acttatttaa aggagccctc agttgcccta gctatccaaa tattggatgg agcacctttt 420
cgccctggtg gcaaggtacc gatgtcggtt agccaagcta agtttgagca gaaaggtgat 480
aaatttattt ctaaacaagt ggacggcaag aagaaaagaa actga 525

<210> 178
<211> 978
<212> DNA
<213> Eucalyptus grandis

<400> 178
ggccatgatg aaaacggtca tggactggaa aatggcttca cgccagtagt tgagagcgat 60
gctgaacaca cttagccaga agatgttcaa aggcaaacct tcttctctca gaggctaaaa 120
gatgttccac ccatggcttc ttaatctgat ccagatgaac catggagaaa caaaatcgaa 180
gtctcatcaa aagggtattt gggaaggagg cattatacaa aatcattgca ttggtttgct 240
actgcaggga cataaatgct gtggttatat tatttagcat gcgccgtttc tctgtaatta 300
cgagctgcct tttgttcatg ctagactttt gaacaactgc ttttgccttt cctatatgaa 360
ctacagatcc tgattgacct aagtaatgac aaggcaaccg ttcttacgga caaaatccag 420
gtgctgaagg atttaactac ggaagttaac aaattgaaag ctgaatgtgc agctcttatt 480
gaagaatctc gtgaggagaa gaatgagctc agagaagaga aatcatcttt aaaatctgag 540
gttgaaaatc ttaatgtcca gtaccagcaa aggacgaggg ttatgtaccc ttgggctgcc 600
atggatccat ccgtcgtcat gggtccagcc tactcatatc caggtccaat acccgtcact 660
ccaggtccaa tacccatgct ctcacaactt cagcctttcc ctttctttgg aaatcagaat 720
gcaagtgcta ttcctgctcc gtgttctacc tttatcccaa attcaatgcc tgccaatccc 780
acatttgaac agcagtcaac ccaatatgct tccacttctc acgtgtcaaa taaaaaagac 840
tccaaaagca ggtcttcaga tcatcaaagg ggcagcattg cagagcaaga cgaagattca 900
aataacgtgg caacagacct tgaacttaag atgcctggaa catcatcaca tcaggacttg 960
acgtccggag aaaagaag 978

<210> 179
<211> 566
<212> DNA
<213> Eucalyptus grandis

<400> 179
catcctatga agccggaatc tgttgaagta ctgaatttcg gagatagtgg gagcggaagg 60
ttgctttcga gtcattcaca ggtcgcagtt gcagaggagc ctctgaacca cgtcgaggcg 120
gagaggcaga ggagggagaa gcttaatcag aggttttacg ccctcagggc cgtggttcca 180
aatgtatcaa agatggataa ggcttcactg ctccaagatg cggagtctta tatcagggag 240
cttaacatga acctacaagc tgcagagtct gataaggagg atttgaagaa gcagttggat 300

gaactaaaga agcgatcatc ggataaagaa tgtatcccgg tggatcaaga tcgcaagatg 360
gcaaaaccta cgggaagtag gtccactggg gtggcaatcg atgtgaagat aatgggttgg 420
gatgcagtgg ttcgagtaga gagcggccgg aaggatcatc ctgcagcaag gttaatggtg 480
gctcttcaag aattgaactt ggagttgcag catgctagtg tttctgtggt gaacgagctc 540
atgatccagc aagccacagt taagat 566

<210> 180
<211> 521
<212> DNA
<213> Eucalyptus grandis

<400> 180
gcaacttttc gagctccgtc aggaggaaaa aaaaataata aaaaaaagag atgatgctcg 60
gagagcctca ccgtcctcct aatccgacga tcgacgttcc tccctggccg atcctggacg 120
atccgacgga cgacgccgtg cctcactctc cgtactcccc ttacacgctc aatgctggct 180
acggcggcgg ctgcgactcc tctccctccg ccgccggccc cggccacttc caggacgtca 240
tggcggcgct ccggcggttc ctgccgtcga accgccccga cacggacccg gacccggata 300
tgacgtcctc ccgcgaggcg gacttcccca tggacgtcta ctcctgcgac aacttccgca 360
tgtacgagtt caaggtgagg cggtgcgcgc gggggcggtc gcacgactgg acggagtgcc 420
cgtacgccca tcccggcgag aaggcccgcc ggcgggaccc gcggaagtac cactactccg 480
gcaccgcgtg cccggagttc cggaagggga gctgccggaa g 521

<210> 181
<211> 449
<212> DNA
<213> Eucalyptus grandis

<400> 181
ccgacgagcc ctccacctcc gccaccaact ccggcggcgg ggcggccgcc gcgagctcga 60
gcgggggcgg gaggtcgcac gagtgctcca tatgccacaa gtccttcccc accggccagg 120
ccctgggcgg gcacaagcgt tgccactacg atggcggcgc cagcggctcc gccaacagcg 180
gggtcaccac gtccgagggc gtggggtccg cggccccgcc cgcgctcgga tacgacagcg 240
gccgccgcaa cttcgacctg aacgtgcccg cgctgccgga gttcccgacc gggttcatcg 300
tgtcgggcga cgacgaggtg gagagccccc accccctcgaa gaagccgcgc ttctcgacgc 360
ccctgaagat caagctctct ccagaacagt gaaatctttg cctgtgcttt taggattagc 420
gcttgttaat tgatttagct agggctttt 449

<210> 182
<211> 610
<212> DNA
<213> Eucalyptus grandis

<400> 182
ctctctcttc tttctctctc ttctgcgtgc gcgatcgcca ttgaagaagc tctgcgcgag 60
acctcggaag gcggaggagg aatcccccca cgcgatttcg catccgccgc cgccgccgcc 120
ggccgccgct ttccgttctt attgcaattc tcaagataga tccatggcat tcgagcagta 180
ctttgcccag gagtggaggc ccatccctgg accagctatg gattctggaa gtagcgatgg 240
ctgtttcgac tgcaacatct gtctagactt tgcgattgag cctgtggtca ctctctgtgg 300
tcacctctac tgctggccct gcatctacaa atggctccac gtgcaaagcg cctcgcttgc 360
ttctgatgag cacccacagt gtcccgtctg caaggctgaa atatcccaca cagccatggt 420
ccctctctat ggccgtggcc aaagctccaa agagtctgat ctgcaagaca aggcactcca 480
actaggaaca attgtacccc cgagaccagc ggcttgtggc atccaagctc tcgcctctac 540
aacaccccgc agcggtcagc agctccccta ccgtaatcct taccaaaatc cgtactacag 600
cgccaattcg 610

<210> 183
<211> 767

<212> DNA
<213> Eucalyptus grandis

<400> 183
cccgactcag caagcaaaag aagaaaccag aaaaatcaga caccccgatt tcacattctc 60
tactacagac ttccagagat ggtgaagaga gacagagagg acacggaggt cgaagccctg 120
gccagggcca attgcttgat gctcctctcc cgagttggcg agagcaccga ctcggcgtcg 180
ccggaccgca aatcgcggcc taccgagcga atgttcgcgt gcaagacttg caaccgcgag 240
ttctcctcgt tccaggcgct cggagggcac aaagccagcc acaagaagcc gaagctgatc 300
tccggcgacc tcttccacct cggccacgca gcagattcct cgccggccaa gccgaagacg 360
cacgagtgct cgatatgcgg cctcgatttc ccgatgggcc aagccctcgg cggtcacatg 420
aggaggcaca gggcggccat gctggaaagc ttggcagcag cagccgcaaa gcctgtgcca 480
gtgttgaaga aatcaaacag caagagagtc acgggcttgg atttgaactc gttgccgatg 540
gaggacgact tgaccttgcg cttaggaaag gttgcgccgc cattggtgct agatctcgtt 600
ttgtaggagc ttagagagcg tagattgtgt acaaagcagt ttttagtcgg tgcctggcca 660
tttctttttc tttttttttc cttcttttt gaattcattg attgatattt tgaatcagag 720
actgggtttc gcatggatat taatttgttt ccaaaaaaaa aaaaaaa 767

<210> 184
<211> 469
<212> DNA
<213> Eucalyptus grandis

<400> 184
catgacccga cgccgccggc gaacgactgg gtcatggaga ccaggaagaa ccactcggtg 60
tcggcggcgt cgggttgccc ggtcgggcct acttcagctc gaatcccgcg tgggtcacgg 120
gggccgagag gttggggaat tgcgggtgcg atagggcccg gcaggcgcag atcttcgggt 180
tgcagaccat cgcgtgcgtc cctgttttga acggtgtggt cgaactgggt tccaccgagc 240
cgatctacca gagctccgat ctgattagcg gaattagggg gctgttcaat ttccatgaat 300
cggagatggg atgcggtggt agggttttga atagcgagca tgacccggcg tcgctttgga 360
tctgcgatcc gccagtcacg atggagatta acgatcgtcc tatgacattt cagatagaga 420
accccagctc gagcagtctt accgaaagcc ccagcgcgat ctgcgcgat 469

<210> 185
<211> 533
<212> DNA
<213> Eucalyptus grandis

<400> 185
gccttggcac gcaaattcca tcgggaatcc atatgccttc tgcgaatctt agttccatat 60
cgatcttggg tcctattccc atggtatcgg gggatggtgg tgggaggacc ggttctgagc 120
ggtcaagaaa cgctgattgt gctccggcag gttttcctgg aggtgatgaa gatgtgaata 180
agggagggga cattccttat ggaatgtcaa ccatcgtgag agtcattccc aattctaggt 240
acttgagggt ggcgcagcaa ctgcttgatg aaatagtgaa tgtgcgaaag gctttgaagc 300
gccctgatga cgcgaatgac caatctagac atgagaacca aaggagcccc aaagatgcgg 360
atgggggttc caagaacgaa gcatcctcaa atccccaaga atccgccagt aactctagcg 420
agctttctgc tgctgaaaaa caagatttgc agaacaagct cacgaagctc ttgtccatgt 480
tggacgaggt tgataaaagg tacaagcagt actatcacca aatgcagatc gtg 533

<210> 186
<211> 413
<212> DNA
<213> Eucalyptus grandis

<400> 186
ggacggctca agaagacagg atcctcacca actacatcaa ggctcacggc gagggcaggt 60
ggaggaacct ccccaagaaa gcaggtccct agcgtttgcc agtgtgtttt tccttttgtt 120

ttctgccttt gaatgagctt gtggagatag cgggagagat cgagactcgt ccgggcggtt 180
cgattctcga gagataatcg tcgtcgttcg ctagggaaac gaggtttcgt ctgactacgg 240
atggaaattc ctttttgcag ggttgcagag atgtggcaag agttgcaggc tgcgatggtt 300
gaactacctg aggcctgaca tcaaaagagg caacatatct cccgatgagg aagagctcat 360
catcaggctt cacaagcttt tggggaacag gtgaaacttc ttctgttctg acc 413

<210> 187
<211> 574
<212> DNA
<213> Eucalyptus grandis

<400> 187
tcgaacttta tcgcgatctc gccgccatct cgtgccagcc tgcaccagat gcatcacccg 60
ccgaacccgg attctctctc gctgcttcaa tccgcgcgaa ccccaaatgc acctccggag 120
catcccgttc cctccacttc caggagggat gaagttgctg tgttgaaaag tcagaaggca 180
ggccgtgaga aattgaggag ggatcgactg aacgagcact ttatcgagtt gggaaatacg 240
ctagatcctg ataggccaaa aaatgacaaa gcgacaattt tatcagatac tgtacaactg 300
ctgaaggatt taactgctca ggtgaaccaa ctcaaagctg aatatagtac gttctgtgaa 360
gaatctcgtg agttgacaca ggagaaaaat gatctcaaag aagaaaaggc ctctctaaaa 420
tctgacatcg agagccttaa tgctcagtat cagcagagag ctagagccat gtttccatgg 480
cccattatgg atcactcagt ggttatggcc ccaccttcat acccatatcc agtgcccgta 540
gctgtgcctt ctggtcccat tcctgttcat ccac 574

<210> 188
<211> 988
<212> DNA
<213> Eucalyptus grandis

<400> 188
gggcgccgtc tggctagcga gggcgagctc tcttatcttc ttcttcctcc tgctccacct 60
aaaaccctcg cccggcaaaa ccgattcgag gtcgagagtc gagtaaagat gaatgtggag 120
aagcttatga agatggcggg ttcagtccgc actggtggaa agggtaccat gagaagaaag 180
aagaaggctg tgcacaagac aactaccacg gatgacaaaa ggctccaaag cactctcaaa 240
agaattgggg ttaatgctat tcctgcaatt gaggaagtca acattttcaa ggatgatgtt 300
gtcatccaat ttgtaaatcc caaagttcaa gcctctattg cagccaatac atgggttgtc 360
agtggtgctc ctcagaccaa gaaattgcaa gatatcctcc caggaataat caaccaatta 420
gggccagata acttggacaa cctaaggaag ctggctgaac agttccagaa gcagtcacct 480
ggtgctgctg ccacagcagg cgcaactgca atgcaggagg atgatgatga tgaggtccct 540
gaacttgttc cgggggagac tttcgaggct gctgcggagg agggtcacaa atcttagaga 600
ctctacatgg atttgtgcc tttccatata tatttcgtgg tgtttaaaat tttgccttct 660
tctcttcgcc cttcttactt tcacattttg atgaagtgtt ctgtgattgt catctcatga 720
tcctgtgaca cactaattag ctaagttact ggaaactcta gttcaaagct actctctttt 780
atctttaaaa aaaaaaaaaa aaaactcggc aacttcgatc ctccttagtt ttcgacttca 840
attcgccttt accgtaaatc tgagaatgtc ttgctgcgga ggaagctgtg gctgcggctc 900
tggctgcaag tgcggcagcg gctgcggagg gtgcaagatg catgccgacc tgacctacaa 960
cgccgagagc atcaccgccg ctgagacc 988

<210> 189
<211> 536
<212> DNA
<213> Eucalyptus grandis

<400> 189
ctccatttca aattacagac gagaggctct ctcaccttct ccgtcgctct gaaaccccac 60
gccctacaga ccttctacta caatggggga acccatcttt ctccccggcc ggacgagtct 120
cgtcggctcg atcagtgtca acgtagttgg aatccaacac aatgccggca ccttcagagc 180
gggcgagaca gtggcacttg tccgcgagcc gtccaacact gatgatgaga tggccatcca 240

agtcctcaac acgaggggca tggtggtcgg ctacatcaag cgcgaagctg ccaaagtctt 300
ggccccacta atagactctc agctgatctc cgtctacgcc attgtgccca aagttcctag 360
ggtcgagaag ctgtttttca tcaattgcca agtgcgagta ttagcgaggg atgatgactt 420
cgagcacgtg aagtcaacga tcttggaagg caagttgatg ctcaccccgc cggtggggaa 480
ggaggtgaga ggcgtgaacg agagtttcac gttggtcggc cagggtgtcg agaaga 536

<210> 190
<211> 2444
<212> DNA
<213> Eucalyptus grandis

<400> 190
ctctcctctt tcctctctct cctttctctc tctctctctc tctcgaggat aaacagagga 60
cgcgaaaagg aattgactcg gggggtggga gtcgcgccag gagcttcttc cctgcgctga 120
gatctgatgc tctgatttct ccagtgtaac gggaacccag caaatccagc aacctcgtgc 180
gtcggagtcg gtgttcaccg cttgttttcg gattccgatc ttataagttt gtgagggttt 240
tgtggttttt tcgtggaaga tctatatcag aaaatgatga tgttcgagga tatgggaatc 300
tgtggcgatc tggacttctt ctctgcccct ctcggggagg gacatggggt tgctccgcaa 360
actgagccag aggccaccgt ggaggatgat tattccgatg aagagatcga tgtggatgag 420
ctcgagagaa ggatgtggag ggacaagatg cgtctcaagc ggctaaagga gcagaacaag 480
gggaaggagg gagttgatat cgcgaaacag cggcagtccc aagagcaggc aaggaggaag 540
aagatgtcga gagctcagga tggaattctt aagtacatgt tgaagatgat ggaggtctgt 600
aaggctcagg gttttgtgta tggaatcatc ccagaaaagg gaaagccggt taccggggca 660
tcagacaatc taagagaatg gtggaaggac aaagtcaggt tcgatcgaaa cggtccagcc 720
gccatagcca agtaccaagc cgatcattcc gttcctggga agaatgatgg atgcaacccc 780
atcggaccta ccccgcacac tctgcaagag cttcaggaca cgaccccttgg ctcgcttctg 840
tcagcactca tgcagcactg tgaccccccct cagaggcggt tcccattgga gaaaggcgtt 900
cctcctccat ggtggcccac tggaaacgag gactggtggc cccagctggg tttgccgaag 960
gatcaaggag ccccgcccta caagaaacct catgatctta agaaggcatg gaaggtaggt 1020
gttctcacgg cggtgatcaa gcacatgtct cctgatatcg ccaagatacg caagctcgtg 1080
aggcagtcca aatgcttgca agataagatg acggccaagg aaagtgctac ttggctggct 1140
ataataaacc aagaggagtc tttggcacga gagctttacc ctgattcatg cctcccactg 1200
tcctcatctg gagggagcgg gtctttggtc ataaatgact gcagtgagta tgatgtcgaa 1260
gggatggaag acgagcccaa ctatgatgta caagagcgca agcctgagaa tctcaaccca 1320
ccatcccatc tggggctgga gagaatgaga ggtccttttg tccagcaatc gcctttccaa 1380
atgaagggag aagttgtcag caacttagat atggcgcgga agaggaagcc gtgcaatgat 1440
ttgaatatgg tgatggatca caagattttc acctgtgagt tcctgcagtg cccttatagt 1500
gaactgaggc tggggttccg tgacagaacc tcaagggaca atcaccagct gagctgccct 1560
tacagaagca attcttcaga gtttggcggg tcaaacttcc atgttaatga ggtcaagcca 1620
gtgattttcc ctcaaggttt tgtccagtcc aagcccatga cttcaacggt caattcagca 1680
tcaacccccct ttgatctatc agggcttgga gttcctgaag atgggcagaa agtgatatct 1740
gatcttatgt cgatctacga taccagcatc caaggcaaca agaacatgaa tcccgcgaat 1800
gatgcgatca tagaagacca gagccgtcct cagccaaagc ttcaacaaca aaacgagttt 1860
gtgggatcat tctttcagca acccaatgct tccgccaatc atcacatgtt ctcccgagag 1920
gacattcagt tcgaccggtt caagaccatg aattcttcgt tcgaggccaa caaccacaac 1980
cacgacaacc tacagctcat gttcgggtct ccattcgatt tgtcgtcttt cgattttaag 2040
gaggagttgc caggtggggt catggatccc ctgccgaagc aggatgtcac tatatggttc 2100
cagcaatgat ttctgcgtgc tcagcttctc gggcgttctt gggaactgta tatttctctg 2160
aagagagatc tatatactta actgtggtct cttgttagat cgagtttaag ttttcttggc 2220
caaggtcttt gcttagctta tgtattctct cgaactttgt taggtgtaga tttagaaagt 2280
ttaggcaggg gtttagatgg ggaaataaga tattagacaa ggacccatga ctagccctgc 2340
ttgctgctga atatataaaa atgttgtctg atcaagtgat tattctacta gactgtccta 2400
taaataagtg aggtgcgttt tcttttaaaa aaaaaaaaaa aaaa 2444

<210> 191
<211> 473
<212> DNA

<213> Eucalyptus grandis

<400> 191
cagcaagcaa aagaggaaac cagaaaaaag cagacacctc ggtttcacgt tctctactac 60
agaattccgg agatggtgaa gagagacaga gaggacacgg aggtcgaagc cctggccctg 120
gccaactgct tgatgctcct ctcccgagtc ggcaagagca ccgactcgcc atggctgaac 180
cacaaatccc ggcctacgga gcggatgttc gcgtgcaaga cgtgcaaccg cgagttttca 240
tccttccagg cactcggagg gcacagagcc agccacaaga agccgaagct gtccggcgat 300
ctcttccacc tagggcgctc cgcggattcc tcaccggcca agccgaagac gcacgagtgc 360
gcgatatgcg gcctcgagtt cccgcttggc caagcccttg gcggtcacat gaggaggcac 420
agggccgcca tggcggagag cttggcgacg gccgaaaagc ctgtgccggt gtt 473

<210> 192
<211> 468
<212> DNA
<213> Eucalyptus grandis

<400> 192
caaaaaagtt acggttggat tgcggtaaag aaatggtgat ggatatttca aatgacgacc 60
gctatcttaa tgaagagatt ggtggtccga aggatgcact tgatgatgga actcagccta 120
ataacaagag gaagcgcggt agagcaccaa agagggctat gaaggctgaa agggaaaagt 180
taaagcgtga tcatctgaat gagcttttcg acaaactggg tagtcttctt gaattgagtg 240
agccgaacaa cgggaaggcc tctataataa atgagactat ccggctttta aaggatatga 300
tttctcagat tcaaagtcta agaaaggaga acacgacttt gttgtccgaa tctcattatg 360
ttgcagcaga aactaatgag ctgaaagacg agaattttgc actcgaagct caaatcaaga 420
atgtacaaag ggaattagaa gacaagttag gccattctaa gcccgacc 468

<210> 193
<211> 968
<212> DNA
<213> Eucalyptus grandis

<400> 193
gagtgtctgc cacttctaga tatgacccag cagcctcctt ggcaggaatt ggttgcaact 60
gatctacatg gcaatgaatg gcatttccga catatttttc gagggcaacc tagacgccac 120
ctactcacta ctggatggag tgtctttgtg agctccaaga agttgatagc tggtgatgcc 180
tttatatttt tgaggggtga agatggagaa ttgcgcgtcg gtgttaggag attaatgaga 240
cagcaaagta acatgccatc ctctgttata tctagtcaca gcatgcatct tggggttctg 300
gccactgcat ctcatgccat tgcaactgga actctctttt ctgtattcta caaaccaaga 360
acaagtaggt cagagttcat tgtgagtctc aataaatacc ttgaagcacg ggcccacaag 420
ctatccattg gaatgaggtt taaaatgaaa tttgagggtg aagaagtttc agaaagaagg 480
ttcagcggca caatcattgg tgtaggagac agcatgtcat ctggatggac taattctgaa 540
tggagatcct taaaggtcca atgggacgaa ccttcatcaa tcatgcgtcc cgacagagtt 600
tcatcatggg aattggagcc acttgttgtg actgctcctt ctaattccca acaggtacag 660
aggaagcgag cacggccaac tgttttacca tcatcatcag tgcaagaact ttctgcgttc 720
ggtggaccta aagctcctga gtattcttca gatttctac atggcgattc ccagagggga 780
agagatgtct atctctctcc caagttttct ccatctgcta ggtcaaaatc tttaaattac 840
aatggaaatg gttcaccagc tgcattatct ggctacacag tcaactggcc tagtcatatg 900
gaaactatta ctgatccatg tacaccagtc aatgggaaag aatctagtga aaagagagag 960
agcggtgg 968

<210> 194
<211> 345
<212> DNA
<213> Eucalyptus grandis

<400> 194

cggccgcctg cagctttccc ctccgtgtcg acacgacgac gactccgccg ccgctccccc 60
ctcgcgtcgt ctctccttct ctcgccctgt atatatctct cgtcccccga caaaaaaagg 120
agaaatctga agagagggga ctgaaattag gttattgaga aggattcttc ccgtgaccaa 180
tcttttggag aaagatggct tctcaattta atttcaaagg cataaccgat gcatcgcaag 240
ctgaaggagt agctgggaaa tcacacggaa atcactcttt aactcggcag ccatcaatat 300
atgctttgac ttttgatgag tttcaaaaca catggggtgg gcttg 345

<210> 195
<211> 456
<212> DNA
<213> Eucalyptus grandis

<400> 195
gagacttccc ctagctcatc ttcactcacc accaccaccg cccccgcccc cgccgccgcc 60
gccgccgccg caaccacctc atcctcctcc tattcctccg ccgtggcggt cgccgcgaca 120
acagcaacaa cctcctcctc ctccacctcc tcgaccgggt cggatccggc gctagaaccg 180
agcaaaagaa gcgaggattg cacttctcaa aagggcccgg ggaagtcccc gagcccgggc 240
gcccacccgg aggagccggc cggcaagagg cacaaggccg gggctccgg cgagcacccg 300
acgtaccgtg gggtccgaat gcggaactgg ggcaagtggg tgtccgagat ccgggagccg 360
aggaagaagt cgagaatctg gctcgggacg taccccacgg cggagatggc cgcccgggcc 420
cacgacgtgg cggcattggc cataaagggc agcttc 456

<210> 196
<211> 569
<212> DNA
<213> Eucalyptus grandis

<400> 196
aaaagcagaa aaagaaaaaa gagagcaaaa aaaaggcaat cgagagcagc ttctccattt 60
cctttcttct cttccgctcg atccatttcg aaatccgcag agaattgtcg agaagagacg 120
agacgatgtt cccgagaccc aaagtcgacc cggcctccgc cggaaccgtc gtgatccgcg 180
aggtgtgggc ccacaacctc gagtccgagt tcgacctcat ccgcgacgtc gtcgacaccc 240
acccccttcat ctccatggac accgagttcc cgggcgtcgt cttccggccc cctcctcccc 300
cctccgccgg cgggcactac cgccgcctcc gcccctccga ccactaccgc ctcctcaagt 360
ccaacgtcga cgccctcagc ctcatccagg tcggcctcac cttctccgac cccgacggga 420
acctccccga cctcggctgc cccggcggcc cccgctacat ctgggagttc aacttccggg 480
acttcgacgt cgcccgcgac gcccacgccc cggactccat cgagctcctc cgccgccagg 540
ggatcgactt cgagcggaac cgggcggag 569

<210> 197
<211> 1007
<212> DNA
<213> Eucalyptus grandis

<400> 197
ggaaaccatc tgaaaggcgt ggtgggcctc ggggtccttt ccgtggaagt ggaggtcgcc 60
gtggcggttt taacaatgga gaagctggcg agggggagcg tccaagaaga acatttgaac 120
gccgcagtgg cactggacga ggaaacgagt ttaaacgaga tggagctggt cgtggaaact 180
ggggaactcc tactgatgaa attgctccgg agcctgaaga acctgttgtg gaagttgaaa 240
aaaatgtggg atctgagaag cagttggttg atgaggaggc tgcagatgct agcaaagaga 300
atcctttgaa tgaaccagag gaaaaagagc ctgaagataa ggagatgaca ttagaagagt 360
atgaaaaggt ccgcgaagag aagaggaagg cattgcttgc attgaaggct gaggaaagga 420
aagtggaggt ggacaaagag ttgaagtcca tgcaacaact ctctagcaag aaggaaaacc 480
atgacatctt tatcaagctg ggatccgaga aggacaaacg caaagaggct gctgagaaag 540
aagagagagc cgagaagtct gtcagcataa atgagtttct aaagcctgct gaaggggaga 600
gatactacaa cccaggtggc cgtgggcgag gccgtggccg cggtgccaga ggtggttatg 660
gtggtggagg tggtggtggc tatggtagag atgcagctgc tccttcgatt aaggatcctg 720

gccagttccc ctcccttggt gggaaatgag gttttaccac tgcatacttc aagctgagtt 780
acttcatgct tggagttgtt gtgatcttcc aggataatca gttattaacg ggaattacat 840
ttttcctgta acagaaacct ttgatattat tcagtctttt ttgagtgtaa attttagttt 900
ctccatggat ttactttgct tttcttttga ctcacttcag ttttgattgt gttagaagag 960
aatgaattaa gccttttcta aaaaaaaaaa aaaaaaaaaa aaaaaaa 1007

<210> 198
<211> 390
<212> DNA
<213> Eucalyptus grandis

<400> 198
cccatttctt ccttggctcc gttctgttgc ttcctctctc tgtcttcgac acttcagctc 60
gtgcgagccc aaaaatcgat ccttttctgc ttccttttgc ctctgttcca gctgtggtcg 120
agtaagcagg agtcaattga tactgggtcg atctggtcgg caacttttgt tggaagtttg 180
aggaatctga ttgagagaag aggtagatct aaaggatcaa aaggatgtca tttaccggca 240
cccaagttaa atgcaaggct tgcgaaaaga cagtttatcc tgttgaacag ttatctgcgg 300
atggggttgc ataccacaag tcttgcttca agtgcagcca ctgcaaaggc acattaaagg 360
tgtgccaatt ttttcaattg gtttacaatc 390

<210> 199
<211> 586
<212> DNA
<213> Eucalyptus grandis

<400> 199
tgctttcctc ctactctgtc actctcactc tcactctcac tcctcctctt ggctctccct 60
caccatcttc ccaggtcccg cgccgcggta tcgctgcccc gaccattctc gccgtctgct 120
caataataat cggagcaaag atgattgatc tcaacacggt ggaggacgac gaaacgccgt 180
cgtccggctc ctcccctgcc tcttctctgt cctctgccat aagcgcttcg aatattaact 240
ccaaccctgc gtacccaact tcgtcttctt cttcttcgtc ctcgtgctct cccttgtgct 300
tggagctgtg gcacgcctgt gccgggcctc tgatttcgct tcccaagagg ggctctctgg 360
tggtctactt ccctcagggc cacttggagc acgtctctga ttttcccact tccgtgtttg 420
atctcccttc ccaaattttc tgtcgtgttg ttgatgtgaa gctccatgcc gatgcgagca 480
ccgacgacgt ttatgcgcag gtttccctgg ttcctgaaag agagcaaatt gagcataaat 540
tgcgcgaagg ggacaacgaa atagacttgg atgaggatga aattga 586

<210> 200
<211> 619
<212> DNA
<213> Eucalyptus grandis

<400> 200
cagaagcgac cattaacgct gtctctctct ctttctctct cctcctcctc ctcctcctcc 60
tcctcctcgc tttttcttga aacaatcgat aatccttcct tccatctttc ctcctcctcc 120
ccccccttgaa atcccgaatc caccaccaca accccccacc gccacctgct cgttgggtaa 180
tctctctttt gcttctggag agggaagtga agtgatctcg gatcagctga ctttggagaa 240
tgatcctaaa gctggtattt ctacattgag atcatcttta agagcgctgt ggttctctga 300
tggcatctca tccatcaaat cattcgtgtg ggcgccctca tcaaggtgcg tttgctgatg 360
ctttatacaa agagctgtgg catgcctgtg ctgggcctct tgtcaccctt cctcgagagg 420
gagagcgtgt ctattatttt ccacaaggtc acatggagca gcttgaagca tcaacaaaca 480
gagggttgga acagcaaatg ccttctttcg atctgccctc taaaattctt tgcagggtag 540
tcaatattca gctccgggcc gaacctgaaa cagatgaagt ttattcacag ataactttgc 600
tacctgaacc tgaacaaaa 619

<210> 201
<211> 376

<212> DNA
<213> Eucalyptus grandis

<400> 201

```
tttaatggcc ttgacgcagg ggaggggaga ttttctgaac ttggggagat ggtagaatag     60
ctgccgaggt gtcaactcat gtcagaattc tgactgatct ggggatcttg ctctcaaaga    120
ggatttctaa gagcagtatc tcaacttggc atacgttcag caactggaaa atagtaggtt    180
caggcttatg caactggaac aggagcttca acgagcacgc cagcagggta tatttgttag    240
ttctggaaat cctggggatc tcagtcataa catggctgcc attggcaatg gggccatggc    300
ctttgacacc gactatgccc ggtggctcga tgagcatcaa cggctgatca atgacctaag    360
atccggagtg aacttc                                                    376
```

<210> 202
<211> 743
<212> DNA
<213> Eucalyptus grandis

<400> 202

```
tttttttttt gtatataatc tctttatttc tagttaggga aaattcagaa agaagccgtg     60
aaggaacttc atccaatggc gatggaaaat ctgaagtgca aggaaaggtt gctggggagg    120
tggatgctgc ttctgagaat gtgtccggtg gagccatcga acgtcccaga gccacaggaa    180
aattggctgc gcctgtaaac tcgcccagca tgtcctcatc attggacctg aagaattctt    240
gcatggatgc aaatgccaac cctgtgagca ttttgcaacc tggtgtagtg ccacctgaag    300
cctggttaca gaatgaaaga gaactgaaaa gggagaggag gaaacagtcg aaccgtgaat    360
ctgctagaag atcaagactg aggaagcagg ctgagactga agaacttgcc aaaaaggtgg    420
attctctgag tgccgagaat agggctctta aatctgaaat tagtcaacta accgagaact    480
cggataaatt gaggctagaa aatgccacat tgatggaaag actggaaaat gcacagggag    540
tggaaaaggc ggttgaatca ctgggtaaat tcaacgacaa tgggcttctc tcggacaaaa    600
cagagaactt actttcaagg gtaaacaact ctggtgccgt tgatcgaaga agtgaagatg    660
agggagaaat ttatgaaagg aagtcgaatt ccggtgccaa gcttcaccaa cttttggatt    720
caaaacccag aaccgatgcg gtg                                            743
```

<210> 203
<211> 435
<212> DNA
<213> Eucalyptus grandis

<400> 203

```
ttttctctct cgccccacca cctgaagatg gaggtcgctc cacaggcgga gcatcaccag     60
aaccaccacc accaccacca ccagtatcac caccagccgc agcaagggga accgggaagc    120
tactttctct cggctcctcc tccgccacca cactatagca gctctggcct gtgttatggt    180
ggtggcgttg gagacaacaa caatggtggg taccttcact ctcctctttc tgtcatgccg    240
ctcaagtccg atgggtctct ctgcatcatg gaagcactca caagatccag accccaagga    300
ttaggtcaag gttcaacgcc gaagctggag gactttttgg gtggtgcaag tgcaacagtg    360
acagcaacga caatgcctct cagcttggac agcttgtata gctaccaaca gagtgccgac    420
ccagagaaac agtcg                                                     435
```

<210> 204
<211> 662
<212> DNA
<213> Eucalyptus grandis

<400> 204

```
gcgaaacgca gagagagaaa gtagagagag agagagagac aagtattccc tctcagtcac     60
cccagccgac gatcctcccg ccgaccgcct cctcccccgg ccgttccgat cctcccggcg    120
acgcgacgac aatggtgaag ccgagcggcg gcggcggcga tcgggccccc ccgctggcgc    180
cgttcctcag caagtgctac gagatggtgg aggacgaggc gaccgacccc atcatcgcgt    240
```

gggggagcgc cggcgacacc ttcgtcatct gggacatcac tcaattcacc ctccagttgc 300
tcccccacta cttcaagcac tccaacttct ccagcttcat gcgccagctc aacatctacg 360
gtttcagaaa agttgattca gatcgttggg aattcgcaaa tgatggattc atcagaggtc 420
aaaagcatat gttgaagaat atacgcagga ggaagaatgt tcaggttgtg gatcagaaaa 480
aatcattgca gaagcaggat aattccgttg aagaagtcga taaaattaaa atagatgggc 540
tttggaaaga agttgaaaat ttgaagattg ataagacagt cctttcgctg gagttaggta 600
aagttagaca gctccaggaa acttcagata ataaattggt cctcctgaga gaccgtgttc 660
ag 662

<210> 205
<211> 694
<212> DNA
<213> Eucalyptus grandis

<400> 205
aaagtcccga gatgccgcga cgcgaattcc cctctcgaat gcgctcggaa ttcgagcgat 60
gatcggagcg gcgaccaacc agatcccgcc gccgccgccg ccgccgcagc cgcagcaagc 120
cgcgcccgcc gccgccgcga tccggttccc cgactccgtc tacaacgcgc tcagggtggg 180
cgccgtcttc cagcggctgt cgaagcacct cgccaccatc ggcaagggct ccggcctgtc 240
ggcatcttgc ggtacttcca tggagttcct gaactcgtgc ctctgcctcg ccagaggcat 300
tgactatgcg gtcgcgaaca atgaggttct gcccaaagct cacgaattgc ctgtcttatt 360
gaaaaggctc tgccttctta aagatgatag tttctatctt tcagttataa tggttctgat 420
gatctctgtt aagaatgcat gcaaatataa atggttttca gagaaggatt gccaagagct 480
ccttgccctt gttgatgaaa ttgggaaaaa ctttcaaagt ccaagagacg ctgccgttgg 540
aagtactgcc tctttttccc gagtttcaag tatatttgca agattctatc cacagctgaa 600
gatgggctac gatcttattt cgctggaagt agagcctgga tatgcagcac tggtcaatga 660
ttttcacata tctaagagca tggtgcactc tcca 694

<210> 206
<211> 1210
<212> DNA
<213> Eucalyptus grandis

<400> 206
ggaggaggag gtgaggagga aatgaaggga aaagaggggg agagaaaagg aattcaggca 60
cggcaacaac tggaaaggaa cggggttcaa aggttctctc tcttttaagc agtgagtgag 120
ggggtgcaaa ttctcattcc aaccatgatt ctgtcttgag ctcgtggggg gtgagggaga 180
gggagacgtc tccagctcga gtcgtcatct gggtccgcgt cttctcttcc cttcttccaa 240
tggtttgatc ctaggacaga gagagaaaga gagagatata caaaaagaga gatacagaga 300
gatagaggga gagggagagg gagagggaga ctcgtggcgc tgtttcgagc tttctagctt 360
ccggaggagg agggctggtg ttgagcgaaa cttggagagg tcatgaattc gacaaccact 420
cagtttgtgt cctctagaag gatggggatg tatgacccga ttcaccaaat tggaatgtgg 480
gacgagaact tcaagcagaa tggaaatcct aatgcgccgc cagctctgat catacctatg 540
cacgcgaatt tggacaacca gtcggaggat acttctcatg gatcacagga tactgctggc 600
aagtatgagc aagaaacatc gaaaccttat gataaggtgc aaagacgtct tgcccaaaac 660
cgtgaggctg cgcgcaaaag ccgtctgcgg aaaaaggctt atgttcagca gctagaagca 720
agtcgtttga agcttatgca gttagaacaa gaggttgacc gagctagaca acagggtgtg 780
tacatggctt caggagtaga ttcagcttat ccaggatatg gtggatgttt aaattcagga 840
atcgttgcat ttgagatgga gtacgggcac tggattgatg aacagaatag acaaatatgt 900
gagctgaggg ctgctttgaa tgatcataga actgacgtag agcttcgcat cctcgtggaa 960
agtggcatga accactattt ggaacttttt cgcatgaaag cggttgcctc aaaggccgat 1020
gttttctatg tgatgtccgg aatgtggagg acatcgtcag agcgattctt cctgtggatc 1080
gggggatttc gtccttcaga acttcttaag gttctcatgc ctcagctcga cccctttgtca 1140
gaccaacaat gggcgtttgt ttccaacctc aggcaagctt gtcaacaggc tgaagatgcc 1200
ctaaagcaag 1210

<210> 207

<211> 438
<212> DNA
<213> Eucalyptus grandis

<400> 207
aatcaacacc actccccaat ttctctctct aagatcccac cccaaccgcc accctcaatc 60
tctctctttc tctctcttct tcagtgtctg ccccgtctgc gacaagggct tcccctccta 120
ccaggccctg ggcggccaca aggccagcca ccgcaagcac gcctcctccg ccgcggccgc 180
cgccgggggt gacgaccagc cgaccacctc gagcacctcc gcggcgacga cctcctccgg 240
cgtctccggg aaggtccacg agtgctcgat ctgccacaag agcttcccca ccggccaggc 300
gctcggcggg cacaagcggt gccactacga ggcccccgcc cccatccccg cctccttctc 360
cgccccctcc gccgccgccg ccccggccgc cagcggggtg agcgtgtcgg agggcgtggg 420
gtccacgcac acgcagag 438

<210> 208
<211> 516
<212> DNA
<213> Eucalyptus grandis

<400> 208
agacatcaca aaattcagca gctacaacga gctcggagtg agcttgctcg catgtttagc 60
cttgaaggcc agttggagga ccctgtgaga tcaggctggc agcttgtatt cgtagatagg 120
gagaatgata gtcttctcct tggtgatggc ccttggccgg agtttgtgaa cagtgtgtgg 180
tgcatcaaga tactctcacc tcaagaagtc cagcaaatgg gcaaacaaga tctggagctt 240
ctgaattcca tccctgttca aaggcactcg aacggcggtt gcgatgaatt cacaaaccga 300
caggattcta gaaccattaa ctccggaata ccatctgtgg ggtctcttga ttatggaact 360
ctatgacctg ttaagatgca atttcttgct gtaatattca gtgttgtcca agccatccgt 420
ggttggaacg actcgcttag ttcttacctt agattgtaac actcatgcag aatttagcac 480
tgtaatgata tttgcttctc tcccaaaaaa aaaaaa 516

<210> 209
<211> 547
<212> DNA
<213> Eucalyptus grandis

<400> 209
aaccgacgac acaggtgaca agaatcacag gttcgaaggg ggtcaattgg gtgttgcagc 60
agcttctgat tccagtgaca gatcaaaaga aaaagccaca gatcagaaga ctttacgcag 120
gcttgctcaa aaccgtgaag ctgccagaaa gagtagatta aggaaaaagg catatgtcca 180
acaactggag agtagcaggc tgaaactcac ccaactagag caagaactgc agcgagcccg 240
tcagcagggc attttcattt caggtagtgg agaacaatcc cactcaatga gcggaaatgg 300
tgccctggcc tttgatgttg aatatgcacg ttggcttgaa gagcacaaca aggttgttaa 360
tgagctgaga aatgcggtca atgctcatgc tggggacact gagctacgga caattgttga 420
caatgtcgcc gcacactttg atgaaatctt caagctgaaa ggcactgcag caaaagctga 480
tgttttccac attttgtctg gaatgtggaa aactccagca gagcgatgct ttatgtggat 540
tggtggg 547

<210> 210
<211> 522
<212> DNA
<213> Eucalyptus grandis

<400> 210
aaaagagcga ccattctctc tctctctctc tctctctgtg aagatcctct ctagcgataa 60
atcactgttg cccatttctt ccttggctcc gttctgttgc ttcctctctc tgtcttcgac 120
acttcagctc gtgcgagccc aaaaatcgat ccttttctgc ttccttttgc ctctgttcca 180
gtacagctgt ggtcgagtaa gcaggagtca attgatactg ggtcgatctg gtcggcaact 240

tttgttggaa gtttgaggaa tctgattgag agaagaggta gatctaaagg atcaaaagga 300
tgtcatttac cggcacccaa gttaaatgca aggcttgcga aaagacagtt tatcctgttg 360
aacagttatc tgcggatggg gttgcatacc acaagtcttg cttcaagtgc agccactgca 420
aaggcacatt aaagctgagc agctactcct caatggaagg agttctatac tgcaagcctc 480
actttgagca gcttttcaag gagactggta atttcaacaa ga 522

<210> 211
<211> 1160
<212> DNA
<213> Eucalyptus grandis

<400> 211
ggattctgaa ggcagagctc ttgaggagct gggggtagat gagaatgata tcggaggatc 60
tcctccaaga tcaactcctc acatgttctg taagacactc acagcttctg atactagcac 120
cccggagggt tttctgtccc acgtcgagca gctgaagatt gctttccccc tctggactat 180
aagcagcaaa ggccttctca ggaacttgtc gccaaggatt tgcatggagt cgaatggagg 240
tttcgccata tttatagagg tcagccaaga aggcatctgc ttaccacagg atggagtgtt 300
tttgtgagcc aaaagcgttt ttcatgtatt ctacagtcca agggcaagcc atgcagagtt 360
tgtcgttccc tatcagaagt atctcaaaag catcaacaac gtgatatgca ttgggacaag 420
gttcaaaatg agagttgacg tagatgatgc accagaaaag aggtgtactg gtgtagtgac 480
taggataggc gacttggatc cttataggtg gcccaactca aaatggagat gcctgatggt 540
tcaatgggat gatgatatca cgaatgggca tcaagatcgg gtctcaccct gggaaattga 600
tccatctgtt tctcactcac ctttgagcat tcagtcctct ccaaggctta aaggccgcg 660
gactagtctg ccaacaatgc cgcctgtccc tggtggaggg gtcaggcttt tggactttga 720
ggaatcttta cgatcctcta aggtcttgca aggtcaagaa aagttgcatt tggtgtcacc 780
tgtctatgga cgtgacaccc taaactgtca ggtcgatttc gaacaatccc ctgcacatca 840
gggtctagca tctgttgtaa gtaagaaaag gccaacaata tcaatgagta catgagggct 900
aatgccccta gttatgcagg ctttgtggaa tccgatagat tcccaagggt cttgcaaggt 960
caagaaatat gcacactgaa gtctttgacg actaaacctg agtacaacct agggacctgg 1020
gggaaatcca gtctttcgtg cagttctttc ggtgtgcatc aggcacccaa gtaccatttc 1080
gaccaagtga aatcatccga aagccttcag aaagtgtact ttccatataa tgacattctt 1140
aaatccagcc aagatcgcac 1160

<210> 212
<211> 850
<212> DNA
<213> Eucalyptus grandis

<400> 212
ttcgacgggc aaatcgtccc cagactgtta tgccttcttc agttctatca agtgacagca 60
tgcatattgg ccttcttgca gcagcagctc atgctgctgc cacgaacagc cgctttacaa 120
tcttttacaa tccaagggcc agtccatcgg agtttgtcat acctctggca aaatatgtga 180
aagcagtcta tcacacaagg gtatctgttg gcatgcgatt cagaatgctt tttgagacag 240
aagagtcaag cgttcgtaga tacatgggga cgataacagg cattagtgat ctggatcctg 300
ttcgctggca aaactcacat tggcgttcag taaaggttgg atgggatgag tcaactgcag 360
gtgagaggca gccaagagta tccttgtggg aaattgagcc actaacaaca ttcccaatgt 420
atccttctcc attccccctc agactgaaga gaccatggcc atctggactt ccttcatttc 480
atgcccttag ggatggtgat atgagtatca gttcttcact gatgtggctt caaggtgttg 540
gggatcaggg agttcagtcg ttaaacttcc agggatttgg gatgactcca tggctccagc 600
caagatatga cacttcaatg gctgctttac aaactgatgt gtatcaggca atggcaagcg 660
cagcactgca ggatatgagg gcagtggacc cttcaaaatg tgcatctcag tctcttctgc 720
ctcttcagca atctcaaaat gttcctatgg ggcaagcttc tatcatccag aggcagatgt 780
tgcagcagtc tcaatctcaa aatagccttc ttcagggctt ccaggaaaat caggcaaaac 840
ccaaaggcag 850

<210> 213
<211> 534

<212> DNA
<213> Eucalyptus grandis

<400> 213
ggacaagctg agggagatag aaaattcatt gtttggacct gaatctgata tcagtgatag 60
ctgcaattgt tgcctaaata gtgggagcca ccaattcccg tcaactgggc agtggaatgt 120
aaaccagatg atagagatga tccctaaatt ggatttgaag gacatgctga ttgtctgtgc 180
acaagcagtt gccgaagctg acatgcctag gacagctgct ttgatggagg tgttagagag 240
gatggtgtct gtctcaggag atccaatcca acggttgggt gcttacttat tagaagggct 300
tagagcgagg ttggaatcat ctgggagcat aatctacaga aagctcaagt gcaaagagcc 360
cactggctcg gaattgatgt cttacatgtc catcctctat caaatttgtc catactggaa 420
gtttgcctac gagtcggcaa atgttgtaat tggggaagct ataaagtacg agtcaagaat 480
ccacataatt gacttccaga tcgctcaagg aagccagtgg atccctatta tcca 534

<210> 214
<211> 358
<212> DNA
<213> Eucalyptus grandis

<400> 214
ctcctctcct ccctcactct ccctcttatc tcctccctcc tctcctccgg gtacatgcaa 60
gaattcgagg gggagagagg gagagagcgt gctttgaaca tggggaggag cccgaggtgc 120
gacaaggacg ggctcaacaa aggagcgtgg acggccgcgg aggaccagat cctgatggac 180
tacgtcaagc tccacggcga gggcaaatgg agccggctct ccagggaaac cggtctaaga 240
agatgcggca agagctgcag gctgcgttgg atgaattacc tgaggcccga catcaagaga 300
gggaacatct cgcccgacga agaagaacta atcatccggc ttcacaagct attgggca 358

<210> 215
<211> 988
<212> DNA
<213> Eucalyptus grandis

<400> 215
actcccctcg cccccccctac atcatccctc ctcgctcctt ccgtcctttc tctctcctct 60
gcttcttctt cttcttcttc ttctccttct tcttctttct ctctctagct ctctcgctct 120
ggcccacgcg gctgctcctc cttcctgctc tctccccccc atcgcggccg agcttaatgt 180
gagctcagct tcgagatctg cgtagattag ggttttttcg cgagccgagc ccgccatgcg 240
cccggccctg tccgcggggc ccgccgcctg aatgcgctcg ccgcctgctc ggtggagccg 300
acgccgcgcg cgggggggtc gagggggagg ggaggaagat ctagcgggag cctgctacga 360
tggttaggga tttcgtctac tgtatcggca tcgatttcgg ttgaggcttt tcgtttcctc 420
ttcttttctg ttggggggtg gggggtgggg gcgcgcgagg gaccggtttc cgccccggca 480
atggatgcgt ccgcgtagga ggcgcggtcc gtgcgagggg aggagggcgg tttgcgcggg 540
ggggttttgg gagttgaaga cgggaagaaa gtggagcttg tgctgaagaa tgagactctc 600
gtcgtcgggc ttcaaccatc agtcgccgga agcctcaaat gcaggggaga agaaatgttt 660
gaactctgag ctatggcatg catgtgctgg tcctcttgtg tcgttgcctc ctgttggaag 720
cagagtcgtc tactttcctc aaggacatag tgagcaggtg gctgcttcta ctaataagga 780
agtagatgct catatcccga attatccaaa cttatcccca cagcttatct gtcagcttca 840
taatgttacc atgcacgcgg atgtggagac ggatgaagtg tatgctcaaa tgaccctgca 900
gcctctaagt ccgcaagagc aaaaggatct atatctactg cctgctgaac ttggaactcc 960
cagtaaacag ccaacaaact acttctgc 988

<210> 216
<211> 669
<212> DNA
<213> Eucalyptus grandis

<400> 216

cttctccctt cctttccttg accacgtcgt cgtcctcctc tcctccgcgt cgcaaaatcc 60
gaaccctagg ccgcgcagcg aaccgccgga atccatcgcc cgcggaggtc gccgccgccg 120
ccgtacatgc ttatttatcg cgccgccgcc ccgccgagcg tattctcctt cgatcgggcc 180
ctatgagccc cgcgcgatcg aagccgatcg cgatccgggc cgtcttctac gccaacctcg 240
agtccgagtt cgcgctgatc cggtccgtcg tcgaccggtt cccgatcatc tccatggaca 300
ccgagttccc cggcaccgtg atccgccccg gccccgccgg cgggggcggc ggccgagcgc 360
tgccgccgcc ggagagcaac tacggcctcc tcaaggcgaa cgtcgaccgg atgcacatga 420
tccagatcgg gctcacgctg tcggacggcg agggcaacct ccccgacttc ggcaccaagt 480
gcgcgtacat ctgggagttc aattttaggg atttcgacgc ggcgcgcgac gtgcagaacc 540
cggactcggt ggcgttgctc cggaagcagg ggatcgattt cgagatgaac aggcagaagg 600
gcgccgactc ggcccggttc ggcgagctgc tgatgtcgtc ggggctcgtc tgcaacgatg 660
aagtgagtt 669

<210> 217
<211> 334
<212> DNA
<213> Eucalyptus grandis

<400> 217
ccgtggcggt tttaacatgg agaagctggc gagggggagc gtccaagaag aacatttgaa 60
cgccgcagtg gcactggacg agggttggta ttgtacacca agaatgttgc attttagctt 120
tgaaaacgag tttaaacgag atggagctgg tcgtggaaac tggggaactc ctactgatga 180
aattgctccg gagcctgaag aacctgttgt ggaagttgaa aaaaatgtgg gatctgagaa 240
gcagttggtt gatgaggagg ctgcagatgc tagcaaagag aatcctttga atgaaccaga 300
ggaaaaagag cctgaagata aggagatgac atta 334

<210> 218
<211> 478
<212> DNA
<213> Eucalyptus grandis

<400> 218
cagtcgggtt tgccgttaga tgataggccc gagggagctc gctccccttc tccggaacct 60
atatatgata atatggggat taggatcaat acgagagagt atcgtgctcg tgagcgtctg 120
aacaaggaga gacaggacat tattacacag attattaagc ggaatccagc gtttaagccc 180
ccggctgatt ataggcctcc caagctacag aagaagctgt acataccgat gaaagagtac 240
cccggttaca attttattgg acttataata ggacctaggg gcaataccca gaaaaggatg 300
gaacgtgaaa ctggtgcaaa gatcgtcatt cgtggaaaag gttcagtgaa agagggtagg 360
ttgcagcaga agagggattt gaagcctgat ccagcagaga atgaggattt gcatgttttg 420
gtggaagcgg agacacagga ggcactagat gcagctgcag ggatggtgga gaaactgt 478

<210> 219
<211> 1677
<212> DNA
<213> Eucalyptus grandis

<400> 219
ccgttccttc cccgttcctt ccctgatctt ccgtcgtccg gcggttcccc gttccggctc 60
cagcaatgtg tgggggcgcc atcatctccg acttcatccc caaccagagg gcccgccgat 120
tgacctcgga cttcctgtgg cccgatctga agagatcggc cggcaagcag tcgaggcggc 180
cggccaggtc ggaggtcgtc gatgtcgtgg acgatgactt cgaggccgac ttccagggct 240
tcaaggacga gtccgacgtc gaggacgact tcgacgacga ggtcgaggtc gacgtcaagc 300
ccttcgcttt ctccgccgcc gagcctcggt actccaaagg ctcttcgacc accaaatctg 360
tggagtataa tgggcaagct gagaaatctg ccaagagaaa gaggaagaac caatataggg 420
gaatcaggca gcgtccatgg ggaaaatggg ctgctgagat ccgtgaccca aggaaagggg 480
tccgagtttg gcttgggacg tttaacacag cagaagaagc tgcccgagct tatgatgctg 540
aggctcggag aattcgtggc aagaaagcta aagtgaactt ccctgatgat tcttccagtg 600

catcatcaaa acgctctgtg aagtcaaatg ttcagaaact tcccaagaca acaacaaaca 660
acgtgcagcc taatctgaat caaaatttca attatgcaaa cagctctgat gatgacattt 720
acagttccat gggttttgtt gaagaaaaac cacctactaa ccagttttac atggatgctt 780
tgaatgccca aggggtttct ggaatgaatt ctctttcccc tgctgacaat gccccccttgt 840
acttcaattc agaccaggga agcaactcat ttgagtgttc tgactttggt tggggtgaaa 900
atgccccaag aactccagat gtctcatctg tactttcagc taccctggaa gttgatgaat 960
ctcagtttga ggatgctaac ccaaggaaga aaatcaggtc tgcttctgat gatgtgtccg 1020
aggaagaaaa caccgctgca aagacattct ctgaggagct gtctgctttt gagtccgata 1080
tgaagttctt ccagatgcca tttgtggatg gtggctggga tccgtcagtg gaagccttac 1140
ttggtggaga ggcaactcag gatggtggaa atgcagtgga tctctggagc tttgatgacc 1200
tcgctcccat gatgggggga gtcttctaaa agagttaccg ttggctggtt tttttatgta 1260
aataaggcta catgttagtg agtcctcgac tgtctgcctg tcttattata ttgagttgtt 1320
ttccgatgtt aaaaagtcct agtcaatgag aaagagagat tgcttcctaa tatgctgcaa 1380
tgctttcagg aatgatttgt ctactgtggt ggtggagtac caaacgtttg aacatggtta 1440
agccttggat gaagtgtggt ttcccagtca gatatgtggt atattggagt atgctgctga 1500
ctaggttaag ttttaaagtc cagaccttct tattggaatt ttgaacttac gtctgtaatt 1560
tgatgattat gtgtgataaa tgctgaaact ctgatgacag caatagcttg ttctgttggc 1620
cagtgcttct ctcaataatt gccagggcct gtgataaatt gtggcaaaaa aaaaaaa 1677

<210> 220
<211> 916
<212> DNA
<213> Eucalyptus grandis

<400> 220
cacggcggcg ccgccgggtt tcttgggccg agggccgtgc cgatgaaaca ggcaggtctc 60
gcccagaagc ccacgaagct gtaccgggga gtgaggcaga ggcactgggg gaagtgggtg 120
gccgagatcc ggctacccaa gaaccgcacc cgcctctggc tcggcacctt cgacacagcc 180
gaggaggccg ccctcgccta cgacaaggcg gcgtaccggc tgcggggcga cttcgcgcgg 240
ctcaacttcc cgcacctcaa gcacaagggg tcgcacatcc agggcgactt cggcgactac 300
aagccgctcc attcctccgt ggacgccaag ctccaggcca tctgccagga catggccgag 360
aagccagccg acggcaagaa gaggcgctcg gcccccgccg gcggcggcag ctccgcagct 420
gccgcctcgc cgcggaggcc ggagccggag ccggagccgg tgaagacgga ggtgggagtg 480
tcggcggcga cgtcgtcctc cccggagagc gacgacgcgt cggtggagga gtcgtcgccg 540
ctgtcggagc tgacgttcaa cgacttcgtg gagccgcagt gggagagcgt gggggtgccc 600
gagaacttct cactgcagaa gtacccgtcc gagatcgact gggctgctat ctattcttga 660
agccttttt cacttctcat catcatcatg tcatgtccag ttttctccag tagtttcgtc 720
ttctttctct ttcgaatttc caagaagcgc agtatgtaat atgttaggag taatttaggg 780
aaagcagggg gctctgctgc gatggagttt ttggcagttg cagcggccac tgctaagcct 840
tgtatcgtcg tgtaaatccg accacggtcc cgccggggtt ttaagtcggc ggcgccgggg 900
atcatctcat gcattc 916

<210> 221
<211> 567
<212> DNA
<213> Eucalyptus grandis

<400> 221
gcgttgatct gctcctgatc atggccctga tcgtatggaa cgagcatgtt caatctctgg 60
caattctcca tgaaactgtt agcatttccg ctatgaccac cgtcgatggc catcccgtat 120
ggaccgcaga agccatggaa gccgggcatt tccttggata aacctgtctc ctccttggga 180
ttcttttctt ttctcagacc agttaactca gctaaaatgt cgtgtattat attgtgatgt 240
gagaaattac ttctaatttg tattatcacc atcttcttct gtagccacac tatgaaagat 300
ctaagtttga ggcaatggga agtggtgtct acacctggca atgaaggaaa gacagcgttg 360
gagagctgaa gaggacgcct tgttacgtgc atatgtgaaa cagtatggcc caagggagtg 420
gcaccttgtg tctcagcgca tgaacactcc ccttaaccgt gatgccaagt cctgcttaga 480
gaggtggaag aactacctga aaccaggtat aaagaaggga tccctcagtg aggaagaaca 540

gcgtcttgtc ttccatttgt tgccgtg 567

<210> 222
<211> 985
<212> DNA
<213> Eucalyptus grandis

<400> 222
gtggttttgc cgtcctcggg gatggtgaaa tcgagcggag gcgcggggga ttctgatcat 60
tcagatcttg aagcgtccgt cgtgaaggaa gctgatagta gcagagtcgt tgagccggag 120
aaaaggccgc gaaagcgagg taggaaacct gccaatggcc gagaggagcc attgaatcat 180
gttgaggccg agaggcagag gagggagaag cttaaccagc ggttttacgc gctccgggcc 240
gtggttccta atgtttccaa gatggacaaa gcgtcacttc ttggcgatgc gatagcgtac 300
atcaaggagc tgaactcgaa gctccagacc acggaatctg acaaggagaa tctgcagaag 360
caaatggaat ccttgaagaa ggaattaacg aataaagact ctcggtctgc tctgccccag 420
agcgataaag atctcagtat ctcgagcaat cacggtgcca agttgataga attggacgtg 480
gacgtgaaga taatcggatg ggatgtgatg atacggattc aaagcagcaa gaagaaccac 540
cctgctgcga agctaatgca ggccctaatg gagttggatc ttgacgtgca tcatgccagc 600
gtctccgtgg tgaatgactt gatgatccaa caggcgactg tgaagatgag tggtcgtttt 660
tactcacagg aacagctaag gctggcgttg tcgtccaaaa taggataagc ccatcagaag 720
tagaagaggg agtgatggta attaaactgt ataaaagagc ttgccgatgt ttgaattgtc 780
gacgcgaata atcaggggct gggatatttt aaggctcccg gcacagcaag ttctgaagca 840
agagctgcca tatgctgttt gttcctcttg tagttcttag tgtagcctgc tagtgtttct 900
tattaggtac tttcgattgt ggagcactga gaggatatga aacaaggtgg aattgttgtt 960
gaagataaaa aaaaaaaaaa aaaaa 985

<210> 223
<211> 335
<212> DNA
<213> Eucalyptus grandis

<400> 223
tggagcttaa acctgataag attggtttac agaggagtga gcaattaaga gatctttacg 60
agtcgctgct tgaaggggaa actgatgcac aaaacaagcg gccctcggct gcattatctc 120
cagaggatct cacagacgaa gagtggtatt acttggtttg catgtccttt gtattcaatc 180
ctggcgaagg tcttccggga agagcgctag cggatggcca aactatctgg ttatgcaatg 240
ctcaatatgc agatagcaaa gtgttttctc gctcactact tgcaaagagt gcatctattc 300
agactgtggt atgttttccc tatctcggag gtgtg 335

<210> 224
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 224
ccaatcttca ctccccctat cccctctctc tctctctcaa gaactaagag cttactatgg 60
aaagcgaacg ctacgatgag acgacagaga agcagcgaat caggagaagg ccgcaccaga 120
agccgtacag ggtatccggg atgaggaagt ggggtaagtg ggtggctgag atcagggagc 180
ccaacaagcg ctcccgtatc tggctcggct cctacgccac cgccgtggct gccgcccgcg 240
cctacgacac cgctgtgttc tacctccgtg gcccctctgc ccgcctcaac ttccccgacc 300
tcatcttgca cgagggccag gactcgctgg gtgaggtctc agccgcctcc atccgcaggc 360
gtgcagctga ggtcggg 377

<210> 225
<211> 394
<212> DNA
<213> Eucalyptus grandis

<400> 225
ctcaatctga cttgtcaggg gtgggatagc aagaaaaggg tctgaaagtt tttcttgctg 60
aatcttcttt gaccctcgga caatcagaca cagcatagat ttaatctgcc cgaggaaaca 120
caaaagatgg ctttcactgg aaccgtggat aaatgtaagg tttgtgacaa gaccgttcat 180
gtcgtcgaca tgatgactct tgaaggcatt ccctatcaca aaacctgctt cagatgcagc 240
cattgcaatg ggacgcttgt gatgagcaac tattcctcga tggatggtgt tctctactgt 300
aagacgcatt tcgagcaact cttcaaggaa tccggtgatt tcaggaagaa tttccattca 360
gccaagtccg acaagccgaa tgagatgaca agaa 394

<210> 226
<211> 340
<212> DNA
<213> Eucalyptus grandis

<400> 226
gactccccct atcccctctc tttctccctc tcaagaatca agagattact atggaaagcg 60
aacgctacga tgagacgaca gaggggcagc gaatcaagag aaggccgcac cagcagcagc 120
agcagcagca gcagcggcgg cagaagcctt acaggggtat ccggatgagg aagtggggca 180
agtgggtggc cgagatcagg gagcccaaca agcgctcccg catctggctc ggctcctatg 240
ccaccccgt ggccgccgcc cgcgcctacg acaccgccgt cttctacctc cgcggcccct 300
ccgcccgcct caacttcccc gacctcatct ggcgcgaggg 340

<210> 227
<211> 571
<212> DNA
<213> Eucalyptus grandis

<400> 227
ccgactcagc aaagccaaag aaagaaacca gaaacagcag accagaccat tccattccat 60
tccatttcgc attctctact acagactcgc agagatggtg aagagagaca gagaggacgc 120
ggaggtcgaa gccctggccg tggccaactg cttgatgctc ctcccccgag tcggcgagag 180
cgccgtctcg aaccgcgaat cgcggtctac agagcggatg ttcgcgtgca agacgtgcaa 240
ccgcgagttc tcctcattcc aggcgctcgg agggcataga accagccaca agaagcagaa 300
gctgatcccc ggcggcctct tccacctcgg ctgcaccgcg gattcctcgc cagccaagcc 360
gaagaggcac gagtgctcga tatgcggcct cgagttcccg atgggccaag cccttggcgg 420
tcacatgagg aggcacaggg ccgccatggc ggagggcttg gcggcagagg cggcgaagcc 480
tgtgccggtg ttgaagagat cgaatagcaa gagagtcatg tgcttggatt tgaactcgtc 540
gctgatggag gacgacttga ccttgcgttt a 571

<210> 228
<211> 726
<212> DNA
<213> Eucalyptus grandis

<400> 228
atgaggactc cctggacaag gaaccccctc ctccgcctcc tccgagattc aaggtgcatt 60
ctttctgcaa gaccttgact gcctcggaca ccagcactca tggtggattc tcagtgttga 120
gacgtcatgc ggacgaatgc ctcccgcaac tggacatgtc aaaacaacct cctacgcaag 180
aactagccgc caaggatctg catgggaatg aatggcgttt tcgacatatt ttccgaggcc 240
agccaaggag gcacctactg caaagtggtt ggagtgtttt tgtgagctcc aaaagacttg 300
tcgctgggga tgcatttata ttcctaaggg gcgaaaatgg ggaacttcgt gtaggtgtta 360
gacgagctat gaaacagcaa ggcaacgttt cgccatcagt catatctagt cacagcatgc 420
atcttggtgt ccttgctacg gcatggcatg ccatttctac aggaaccatg ttcactgttt 480
actacaaacc taggataagc cctgctgagt tcatcatccc ttatgatcag tacatggagt 540
ctctcaagaa gaattactcc attggcatga gattcaaaat gagatttgaa ggggaagaag 600
ctccagagca gaggtttact ggaacaataa tcggcattga agatgctgac ccaaaagggt 660

ggcgagatac aaaatggagg agtctcaagg tgagatggga tgagaattct gccatacctc 720
gtccag 726

<210> 229
<211> 752
<212> DNA
<213> Eucalyptus grandis

<400> 229
gttcagaggg gtgcggaaga ggaagtgggg caggtgggtc tccgagatcc gcctgcccaa 60
cagccgggag aggatctggc tcggctccta cgacaccccc gagaaggcgg cccgcgcctt 120
cgacgccgcc gccttctgcc tcggccgccc cgccgcgaag ctcaacttcc ccggcagccc 180
cccggagatc tccggcgcgg cgtccctctc ccccgatgag atccagtcgg ccgcggcgag 240
ccacgccaac tttggggccg tggccgtgcc ggcccgggcc gagctgcccc gaccaggatc 300
gccggccccg tcgccttcgc tgtcggcctc ggaggcgagc agcgtgctga cgaccgagag 360
cgacctgacc ctggacctat cgttcctgga ttttctggat gattcgggcc cggtttccgg 420
cgagccccat atcgggaagt tcccgggcgt ggaggaggct cccgacgttt tctaccacat 480
gcagttcccg agcgtggaga gcgcggggct gaatctcgat actctattgg cttcagacag 540
cttcccgtgg cgtatctgaa gtggactgaa ggaagaagcc tggccgatca tttctctctt 600
tttttttct tttttttct ataattcttt tgatggacta gattttgtgg ggtcgtcatc 660
cacttcagga taatacagat gacaagaact gactttttat ggtgtaaaaa gacgtagctt 720
ttttgttggt tcggttcaaa aaaaaaaaaa aa 752

<210> 230
<211> 563
<212> DNA
<213> Eucalyptus grandis

<400> 230
ccgaggccga cttcctggcc aaacactcca agcccgagat cgtcgacatg ctgcgcaagc 60
acacgtaccg cgacgagcta gagcagagca agcggagcta caggggctcc gccgcggaac 120
gggccgggag gggcgggttc gggccggggc ggacagagtg gtcggccgcc gcccgggagc 180
agctgttcga gaaggccgtg acgccgagcg acgtggggaa gctgaaccgg ctggtgatcc 240
cgaagcagca cgcggagaag cacttcccgc tgccgggcgg gccggcggcg acgatgaagg 300
gcgtactgct caacttcgag gacgtcggcg ggaaggtgtg gcggttccgg tattcgtact 360
ggaacagcag ccagagctac gtgctcacca agggttggag ccggttcgtg aaggagaaga 420
gcctgaaggc cggcgacacc gtctgcttcc agcggtcgac cgggccggac aagcagctct 480
acatcgactt caagccgcgg ggccagccgc cggccggccc ggccgcgccg ccgccgccgc 540
ccgtacagat ggtgaggctg ttc 563

<210> 231
<211> 642
<212> DNA
<213> Eucalyptus grandis

<400> 231
agtaaaccca ccgaccagaa cctttgtgaa ggttcacaaa tcggggacct ttgggcggtc 60
actggatatt tcaaaattca gcagctatga tgagctgcgc agtgaactcg ctcgcatgtt 120
tggccttgaa ggccaattgg aggaccctca gagatcaggc tggcagcttg tatttgtaga 180
ccgggagaat gatatccttc tcctgggtga cgacccttgg caggagttcg tcaacaatgt 240
gtggtacatc aagattcttt cccctcatga agtaaaacaa ctgggcaaac aaggcatcaa 300
ccctgcaaat tctgtcccaa ggcaggctct ctgagtgcat cacggtattt gatgagcatg 360
tttggtcgac agagttgacc gatctgagct ttggggtagg cagatgatgg gggtcgctgg 420
actacttgaa gccgagtcgt ttggtgtaag aaacggactt ggcttctgat agtgtttgac 480
cgtgttgtag tgggtaccta tgagaaaaaa gagttgtagt aatatattgc ttcgagagat 540
gtagtgacgt ggtaagtcta tctcaagttt gctttataac tgtaaagttt aacaccacgg 600
atgattgaag agaatgacat cgacattccc gtaaaaaaaa aa 642

<210> 232
<211> 1358
<212> DNA
<213> Eucalyptus grandis

<400> 232
```
cgatttaccc ccctccctct ctcggcatat aaaacccgca ggtgaaaccc gctctctctc      60
ccccacgcct tccgcccgac tcggactcgg actcggccga gtcaacccac gccccccgcg     120
agtcccgacc ccccggcgcc atgacgcggc gatgctccca ctgctgcaac aagggccaca     180
actccaggac ctgccccgtc cgcggcggcg gcggggacgg cgggggcgcg gcggccgccc     240
cctcctcctc ctccccctcc acctcctcct ctggcgccgc ggcggcggcg gcggcctcgg     300
cctccggcgg cggggtgaag ctgttcgggg ttaggttaac ggacgggtcg atcatgaaga     360
agagcgccag cgtggggtgc ctgtccgccg cccactacca ctcctcgtcc tccgccgcgg     420
catccccgaa ccccggctcg tccccgatcg acgggagcga cggctacctg tccgacgatc     480
ccgcgcccgg ctcccgctcg tccaatcggc gcgtcgagag gaagaaaggt aacccatgga     540
cggaggaaga gcatcgaagg tttttaattg gtctccagaa attgggtaaa ggagactggc     600
gagggatagc tcgtgacttt gtgactacaa ggactcctac tcaagtggca agccatgccc     660
agaagtatta tatccggcag agtaatgctg gccgaagaaa gaggcgctcc agccttttg      720
acatggctcc agatatggct actgctgacc aaccctcaca tccagaagaa acatttctgc     780
ctcctttggt cagacttaac gatgatacta actcaacaac ttcaaccagt atgggactcg     840
atttggaaag aacgcctatg gagacctcgc acccagaaac atctgaaggg ggcggtgatg     900
ttgcgatgga atcaattgat caagtacctc ttgtaccctg ttacttccca tactatttac     960
cactaccctt tcccatgtgg ccgcccaaca tggcgcctcc tgaagatgga agggtggtgg    1020
agacatctca tcaccgtgtg ctaaagccaa tcccagtaat tccaaaagaa cccctaaata    1080
tcgaccaaat agttggaatg tctcagctaa gtcttgctga gaatgaacct gcaccactct    1140
ctttgaagtt tctcggggaa acatctcgac agtcagcatt tatcaaggcg ccttcttcag    1200
tcaatgaatc ggatctcgac aactgcaagg atggcgccac tcaagcagct tgactcgtgc    1260
ctaagatcag cgacggttta gttcttgtga atctttctgt aaaaccatct gtattggtgt    1320
cctccttttc ctgttgtatc tgctttcttt aggctttc                            1358
```

<210> 233
<211> 506
<212> DNA
<213> Eucalyptus grandis

<400> 233
```
aaataactac ctaccttttt ctaagaactt tggctttctt tcggaacagg tgaaaagaag      60
agtataaatt cagagttatg gcatgcttgt gcggggccat tggtgtcttt gcctccagtt     120
gggagtctcg tggtctactt tcccc aaggc cacagtgagc aagttgcagc atcaatgcag     180
aaggagacta cttgtgtacc cagctacccc aatctgcccg caaagttgat atgcatgctt     240
cacaatgtga cattgcatgc tgatctcgaa actgatgaag tctatgcaca aatgaccctt     300
caacctgtaa gcaaatatga ccaggaggcg ttactggcat ctgatatggg cctcaagcaa     360
agcaggcagc ctacagagtt tttctgcaag acgcttacgg ctagcgacac aagtactcac     420
ggtggatttt cagttcctcg tcgagctgct gagaagatct tcccatcact agatttact      480
atgcagccac cttgccagga gctaac                                          506
```

<210> 234
<211> 420
<212> DNA
<213> Eucalyptus grandis

<400> 234
```
taaaaaccat gcagtctctc agccactgaa catggcgctt gaagctctca actcgcccac      60
cgccgccgcc cccttcggcc acgacgacgc ggacggccac ccgtgggcca aacggaagcg     120
ctccaagcgc ccccgcgcgg accctcagga ccagccctcc gaggaggagt acctggccct     180
ctgcctcatc atgctcgccc gccgccgccg ccgacccggc agcagcggca ggctccacga     240
```

gtgctccatc tgccacaagg ccttccccac cggccaggcc ttgggcggcc acaagcggtg 300
ccactacgac ggcggcagca gtagcagcgc cgcccgtgct gcctcttcct cagaagccgg 360
cggtcctagc cacacgactg tcagccaccg cgagccgatc gacttgaact tgccggcctt 420

<210> 235
<211> 476
<212> DNA
<213> Eucalyptus grandis

<400> 235
gcgacaccta ctccaaagtg gttggtcgct gtttgtcagc tctaaaaagc ttgttgctgg 60
tgatgctttt atatatctca gaggagaaaa tggtgaactt cgtgttggag ttagacgagc 120
gatgaggcaa cttaataatg ttccatcttc gattatgcca agtcacagta tgcatattgg 180
tgtccttgca acagcatggc atgccatttc aactggtaca atgttcactg tgtattacaa 240
accaaggact agccctgctg aattcatcat tcctttcgat aagcacattg aatctgccaa 300
atttgattac tccattggga tgaggttcag aatgacattt gaatggtgaa gaagctccag 360
aacagaggtt ctctggcact gtaattggat ctgaggatgt tgatcctccg aggtggcctg 420
gatcaaaatg gagatgcctc aaggtgcggt gggatgaaat cacttccatt catcgc 476

<210> 236
<211> 799
<212> DNA
<213> Eucalyptus grandis

<400> 236
cttcctctgt gcatgacatt tcagaaaatg gggaagctga tgaacagcaa aaacattcag 60
aacagcatga gtcctcccct gcaactggag tgcctcatcc tggtgtctct ttgcccaatg 120
tccaatatgc aacgcctcca caacttggag cgggacatgc catgacacca cctgcttacc 180
cctatccaga cccttattat cgaagcatct ttgctcccta tgatgcgcag tcgtacccgc 240
agcagcccta tggtgcacag cctatggtcc atctgcaatt aatgggaatt caacaagctg 300
gagtgccttt gccatcagat gcagttgagg aacctgtatt tgtcaatgca aaacaatatc 360
atggcatctt gcggcgtcga cagtctcgtg caaaagctga gttagagaac aaagctctta 420
aatctcgcaa gccttacttg catgaatctc gacatttgca tgcattgaga agagctagag 480
gatgtggggg gcggttcctg aacgcaaaga aggatgaaaa tcagcagagc gaggtttctt 540
cagcggacaa atcacaggga aatatcaatc tcaactctga taaaagcgat cgctcgtcct 600
gaggtgcaac ttcctgatca atgcaaagta atctctttcg tgcatgaatc atgcctgttc 660
atcaatagat ttcccctacc tagcctagcc tcaccaattg ccctgctctt ctgcttgtag 720
gtcagtctct ttagttggta gtgtgaatct gtttgtagtt ctgagggaaa cctgctgcat 780
agatagtagt ttcgagtag 799

<210> 237
<211> 298
<212> DNA
<213> Eucalyptus grandis

<400> 237
aagtgaagga tatgtttcaa gatcaaaggg aaaagtacga cacgttcctc gaggttatga 60
aagatttcaa ggctcaaagg actgacacta caggagtcat agcaagagta aaggaattat 120
ttaaagggca taacaaatta attctgggat tcaatacttt cttgccaaag ggatttgaaa 180
tatcccccga cgaggatgaa acaccaataa aaaagaatgt ggaatttgaa gaagccatct 240
cttttgttaa taagatcaag aaacgcttcc aaaatgatga gcatgtctat aagtcatt 298

<210> 238
<211> 521
<212> DNA
<213> Eucalyptus grandis

<400> 238
tccttccttc tccttctcct tctccttcgt ctccttcaga catgtcgctc aaccaccccc 60
tctctacttc agacggcacc cccaacactc tctggtggac cactcacccc accatgttcc 120
gccagcacaa cctcctcctc aatttcaacc ccaccgacga cgacccgcaa gacgagggct 180
cgcccccgcc gccctacgtc ctccgagggg cgccgccacc ggcggagccg tcgcctgcag 240
agaaagagcc catgttcgag aagccgctga cgccgagcga cgtggggaag ctgaacaggc 300
tggtgatacc gaagcagcac gcggagaagc acttcccgct ggtgggcgag gcgacccagc 360
agctgagctt cgaggacgag tccgggaagt ggtggaggtt ccgctactcc tactggagca 420
gcagccagag ctacgtcctc accaagggct ggagccgctt cgtcaaggac aagcgcctcg 480
acgccgggga cgtggtcctc ttcaccgcga ccgcgccgac g 521

<210> 239
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 239
gcaattcttg ctgccgggga ggggcaaatc gggaacagac gataagggga tggcacagcg 60
ctcggctccg gcgcccttcc tgacgaagac gtaccagttg gtggacgatc cggccaccga 120
cgacgtcatc tcgtgggggg agagcggccg gacgttcgtg gtgtggaaga cggcggagtt 180
cgccaaggac ctgctcccca gctctttcaa gcacaacaac ttctccagct tcgtccgcca 240
gctcaacacc tacggcttca gaaagatcgt gccggacaaa tgggagttcg ccaacgaccg 300
cttccagcgg ggccagaaag aactcctctc cgagatc 337

<210> 240
<211> 334
<212> DNA
<213> Eucalyptus grandis

<400> 240
aggatgtgga gggacaagat gcgtctcaag cggctaaagg agcagaacaa ggggaaggag 60
ggagttgata tcgcgaaaca gcggcagtcc caagagcagg caaggaggaa gaagatgtcg 120
agagctcagg atggaattct taagtacatg ttgaagatga tggtggccca ctggaaacga 180
ggactggtgg ccccagctgg gtttgccgaa ggatcaagga gccccgccct acaagaaacc 240
tcatgatctt aagaaggcat ggaaggtagg tgttctcacg gcggtgatca agcacatgtc 300
ttctgatatc gccaagatac gcaagctcgt gagg 334

<210> 241
<211> 422
<212> DNA
<213> Eucalyptus grandis

<400> 241
ttttctccca cctccttctc tctcctctct ctctctctct acagtttcgc ggcgaaatca 60
agtcccccgg cgagctaggt ttcaaccggc gaagcagcca gaagaagaag aagaagccga 120
agaagaagaa gggcggagat ggatcagtgg aggacggatt tgggagcgtc gacttccgtc 180
cacccccagc agcaccagca ccagcaccag caccacccgt ccagcaggct gcacgcctcg 240
cacgacgagc ccaggcaaag ggaggaagcg gacgtcaggg atcccgtggc cgcgaggaaa 300
gtccagaagg ccgaccgcga aaagctaagg agggatcgtc tgaacgagca cttccttgaa 360
ctggggagca cgctagatcc tgatagacct aagaatgaca aggcaaccat tctcacggac 420
ac 422

<210> 242
<211> 737
<212> DNA
<213> Eucalyptus grandis

<400> 242
aaaaagacca tttcttccga acacaagagg aggcgggtgg tggtggtggt gttgctgctt 60
ctggtgccgt ccacttcctt cttcccacct ccatcttcat ctctccctcc ctctctctct 120
ctgaatctac cgaacccttc tcgccgaagg aggagagaga gagagagaga gagagagaga 180
cgggaagacc atcgctttcg gccatcgcgt gcacgagcag tcatgaggag aggcagatgc 240
gccgccgcgg ccgcgaagag ggaggcggcc gagatagcgc cgccgccggt gccccatgcg 300
gctgcggcgg cggcggcgga acccagatac aggggcgtcc ggcggaagtc gctgggccga 360
tacacggccg agatcagaga ccccgggacg aagaagctcg tgcggctcgg cactttcggc 420
tcgccggagg aagcggcgcg tgctttcgac gcgaaggccg tggcgttccg cggggtcaag 480
gccaggacca acttccccgt cgccccgtcg agtttccctc cggccgcttc tcgcgatctg 540
cgagctccgt tgattgaatc cagaaagttc ggtcggagag gcgctcgaga tcttcgcggc 600
gaccaccacg acgtcagccc gcagagaccg acctcgagca gcttaagcag caccgtggtg 660
tcgtccagtg gtcctcgacc gtcgccgtcg ccggagacgg cgaagcggcg gactaggact 720
ccgccgcgcc accgccg 737

<210> 243
<211> 542
<212> DNA
<213> Eucalyptus grandis

<400> 243
ctacaatagc aactcagatc ccattagaga ggaattcatg aaagcactag agccttttat 60
gaaaagtgtt tcccctgttt cttctccatt atcatcatta tcatcttgtg actcggtctt 120
tccaaaacaa cagcctaatt tgaatcctga cctttgctcc tcttggatag taaacccgat 180
gggtctcgag caatccggct cgattgggct caaccgactc tcccattctc aaatccaaca 240
tatccaggac gaaatgctac tccgacgtca aaatcaagaa ctttggttag cttccgctgt 300
gaaatctcct ctccagcacg aaaaattcga ccagtgtcgg taccaaaacc accacggctc 360
tccccatctc ctccggccga aagccctctc aatgaagcgg gtgggagtcc ctccgaaacc 420
caacaagctt tacaggggag tgaggcagag gcactggggg aaatgggtgg ctgagatcag 480
acttcccaag aacaggacac gcctctggct cggcactttc gacaccgccg aggaggctgc 540
tc 542

<210> 244
<211> 848
<212> DNA
<213> Eucalyptus grandis

<400> 244
gagagagaga gagagaggaa ggggtgtcat ggatttgttc ttccacgaag aggttcaaag 60
cgacatcttc tggtgcgatc aactggtgga gccgccgccg ccgccgccgc cgccgctgcc 120
gccggctaac ccaagcgcct tttcaccgta tacaaaccgg ctgccgagtc aagaccgagg 180
gttcatgccg aacccgggga ataatatgaa caagcgggtg atggagttct tgaggaggag 240
ctgggccgaa ccgagccaga tccaagaatt cgaccgcgaa cggggttttc gacacatgct 300
gagcgagagg atgaggaggg agaagcagaa gcgtagctac tcggcattgc tctccgaatt 360
gcctcatggt accaagaatg acaagaactc catcgtccaa acagcttgca tgagaatcaa 420
ggagctggtg aagtacaagc aagagctgga gagacaaaac ggggagctga agtctggact 480
gaacgagaag agcggagggg acaaagctga agggaccaag atcagagtca agattgcgaa 540
cccgacgtcc gggattgatt ctatgttgga ggtcctcaag tgcctggaca acatgggact 600
gaaagctacg gcgattcaaa cgcagtgctc ggccgaccaa ctcttcgccg tgatcgaggt 660
tgaaaatgag gtatgtgcac aacaatccga tgccaatgta cactaatcac tggttcatgt 720
tcttcgcacg tgattttcat ttttctcgaa tgtaaagtaa gaacttgtac gatgttcatg 780
cagcacaagt tcgaaatttt cccagtccat gggaaggtcc ggcgtcttcg tttctggtgc 840
caagcatg 848

<210> 245
<211> 181
<212> DNA

<213> Eucalyptus grandis

<400> 245
gacatggcgc gacgtggcgg aggaaggagg cgaacggcgg ctccgaggcg tccgacgccg 60
tcttgccgcg agctcatcat cgccatcgtt acaagggagt gaggatgcgg aagtggggga 120
agtgggtggc ggagatacgg cagcccaaca gccgggaccg catctggctc ggctcctacg 180
c 181

<210> 246
<211> 117
<212> DNA
<213> Eucalyptus grandis

<400> 246
cgagctgctg cagatccaga ggaagaggaa gaggatggag tcgaaccggg agtcggcgaa 60
gcggtcgcgg ctgcggaagc agcagcactt ggacgagctc acgaccgagg tgggtcg 117

<210> 247
<211> 597
<212> DNA
<213> Eucalyptus grandis

<400> 247
tctctctctc ttcgtttctc ccgtttctct ctctctacct ctcgccaaga aaccgccagg 60
aaaggaagga aggtaaaaag aaaagaaaag gaagccatgg ctccgagaga aaagcccagc 120
gtcgccgcca tcccaaaccc taacggcgct aaggaaatcc gtttccgggg cgtccggaag 180
aggccctggg gccgctacgc cgccgagatc cgggaccccg gcaagaagac ccgggtgtgg 240
ctcggcacct tcgacacagc cgaggaggcc gcccgcgcct acgacaccgc cgcccgcgag 300
ttccgcggcg ccaaggccaa gaccaacttc cccacctccg ccgagctgat ctcctcctcc 360
cgcagcccca gccagagcag ctccctcgac gagccctccc ccccgccgcc ggccggggcc 420
gtccaggccg ccgccctcgg cccgcccctc gacctcagcc tcggccgcca ccccgtcgcc 480
gccgccgccg ccgggcccgg gccttacttc cccggcgcgg ccgcaatgtg cttcccggtg 540
atgcccccgc cgccgcggcc ggtgttcttc ttcgacccct tcggccgcat ggagcat 597

<210> 248
<211> 361
<212> DNA
<213> Eucalyptus grandis

<400> 248
gaggctcagt acttcgtgta gccatggggc atgaaagtga agcatttgaa gagtttgttg 60
atgcgcacaa aacttgcttg aatgatctca tgttcttccc tactcgtaat gccttggact 120
ctcaagtgtt gctgcaaatg cagaaaagct tgctgccttg cagaacgaat atcattttgc 180
taaagcaagg attgatgaag atcatgagaa ggcgcagcga ctggagaaga aggtcaaaac 240
tctcacattc ggctatcaga tgcgggagaa gactcttcga gaccaaattg agtcaacctt 300
caagcagctg gacactgcag ggacagaact cgagtgtttc ccagctctgc agaagcaaga 360
g 361

<210> 249
<211> 472
<212> DNA
<213> Eucalyptus grandis

<400> 249
ccatcgtcac ctgtatccac aaaaacacac ccaccttacc tctgcacccg ccccacccgc 60
ctatcgcagg gcctgcgata cagacgcttg gctgccaagc atgaagagaa gccctccgct 120
gtgctcgaca aatcccaaga tcccacagac agcgcaaagc catccaagaa gccccgccat 180

cgtcacagtc ccacccagct cgctgccctc aacgaactct ttgagaaaag cgaacacccc 240
actcttgagg agcgaggcca gttggctgag aaattaggaa tggagaccaa gaccgtcaat 300
gcatggtttc agaacaagcg tgcttctact aagaagcgca ataagggggg aacctcggaa 360
cctcacccag ccacgagtca gaacgacttg tccgaagatg ctctcaaaac cccttccgca 420
ctgccgtcga tagcgaacct gctcaacgac gcaccctcat cggcctcgcc gc 472

<210> 250
<211> 302
<212> DNA
<213> Eucalyptus grandis

<400> 250
ccccgcccac ttatctgcta tcctcgctac ttcgctctat tagtacctcc acaatcccat 60
gcgcaaacgc caacgcaccc tcgacatgca cgccggcgca ccaggtccca acgatgccat 120
tgacgcgaac agcgtcggcg acaacgcgtt catcgcggat cacgacgcaa ttgactcggc 180
cggcgacgac gacgacgacg aagacaagcc caagaccggc cagaagcaag gccgccgcaa 240
aataaagatc gagtttatac aggacaaatc gagacgccat atcaccttct ccaaaaggaa 300
ag 302

<210> 251
<211> 708
<212> DNA
<213> Eucalyptus grandis

<400> 251
gatcacgttc cttcttcgag tgctctggac agtaggagct cctcaaaccg tacttctggg 60
gtgaccttag cagaggtttt accaacaccc gggcagtcta agagttcagc tgattcaggc 120
ttttgtgtca gtcatcttgg tggggttcct gattcacaat cttcttcata cgcagcagag 180
catgttaata cacatcagac tcaagagata catttgccag tgccgcagga caatgcagat 240
ctccctgatg caaacttttt ggtttcggaa actgcaagtc ctgactatct tgaaactctg 300
tccgcagctt tagatgggac catggatgtc gagtcagatg ctttttcttc tgaacgagat 360
gcgggaatta tgctggatga tgtaactaat cttccagcga tcagtgatgt cttctgggaa 420
cagtttcttg cggcaagtcc acttactgca gacacagagg agattagttc gacctctcat 480
gaaactggca tcacgaatga tcaagagtca cacactaagg tggagaatgg atttgagaag 540
gcccattaca tggatcatct taccaaacag atgggtcatc tcacctccaa caacggaaca 600
ggatgatatg ttcttatcta ctttgtacac tggataatct ctttcagact agaggtgaat 660
gccaatgcag gatgcgaata acaaattatg ccaaaaaaaa aaaaaaa 708

<210> 252
<211> 563
<212> DNA
<213> Eucalyptus grandis

<400> 252
atttttcaac tccccccccc caccccgaat caaatcccat tccctctctc cctccctccc 60
tttttttccc ccaatctttt gttgcgtttt caagcaccca cgccccccaa tctccaacgc 120
catcaatcaa gctcaagcac catcacctca agaagaaaga aggaaagaaa gagagaagga 180
ccggagaccc gacagagggt cgcgcgcgca cgagacatgg gacgatcccc ttgctgcgag 240
aaggcgcaca ccaacaaggg cgcgtggacc aaggaagagg accagcgcct catcgactac 300
atccgcctcc acggcgaagg ttgctggcgc tccctcccca aatctgccgg gcttctcagg 360
tgcggcaaga gctgcaggct caggtggata aactacctcc gccccgacct cagcgcggca 420
acttcaccga ggaagaagac gagctcatca tcaagctcca cagcttgctc ggcaacaagt 480
ggtctctgat cgcggggaga ttgcccggaa gaaccgacaa cgagatcaag aactactgga 540
acacccacat caagcgcaaa gct 563

<210> 253
<211> 397

<212> DNA
<213> Eucalyptus grandis

<400> 253
cctcgatgta acgaaacgag ctgcacgagg aatttgccgg tagagagata aagaggagcg 60
atggagatga agggaggggt cgtcccgaaa gaggaggagg cgtcgtcgga cgtggggcag 120
ccgccgccgc cgccgccgcc gccgccgcag cccatggagg ggctggcgga agcggaggcc 180
gcgccgttcc tgacgaagac gttcgagatc gtggaggacc cggcgacgga cccgatcgtg 240
tcgtggagcg aggggaggaa cagcttcatc gtctgggacg cccaccagtt cgccgtcacc 300
ctgctcccca agcacttcaa gcacggcaac ttctccagct tcatccggca gctcaacacc 360
tacggtgtgt tcgatgagta tgatactgca agtttta 397

<210> 254
<211> 353
<212> DNA
<213> Eucalyptus grandis

<400> 254
gaattacacc caaccaaacc aaaagagtca taattcagga tccaccttgt ttagttaagc 60
aagaataatt ttcccttccc ttttctcttt ttgagccctt tagagttaca tgtcttgggt 120
agcaatgacg gggaactttg ggtggggctc aaactccatg gaagaggcgt ggaggaaagg 180
tccctggact gctgaggaag acaagttact cattgagtat gtgaagttgc atggggaagg 240
aagatggaac tctgtagcta ggctcacagg gctcaagagg aatgggaaga gctgtagatt 300
gaggtgggtg aattacttga ggcctgacct gaagagaggt cagataaccc ctc 353

<210> 255
<211> 541
<212> DNA
<213> Eucalyptus grandis

<400> 255
accaccacca gtaccaccac ctccctctct ctctctctct ctctctctcc ttttccctct 60
gttcgtgttc ggtacgattg cgaagcggaa agcgaatgct cctctccgga ttgccatgaa 120
ctccaacgct tcctccaacc cccagtcgat ggccacctcc acgacgtcgg cgaccacgcc 180
ggcggcgggc ggcgacggcg gcaagaaggt caggaagccc tacacgatca ccaagtccag 240
ggagagctgg accgaggagg agcacgacaa gttcctcgag gccctccagc tgtttgaccg 300
cgattggaag aaaattgagg atttgtgggg ctcaaagact gtcattcaga tccgaagcca 360
tgcccagaaa tacttcttga aagtccaaaa gaatggggca gttgcacatg ttccacctcc 420
tcgtcctaaa cgcaaagctg ctcatcccta ccctcaaaag gcatcgaaaa atgttttagt 480
gccgctgcaa gcatccatgg cccagccttc ttcaacaaat cctgctttta caattacacc 540
t 541

<210> 256
<211> 477
<212> DNA
<213> Eucalyptus grandis

<400> 256
agatagtcca agctctctgc ctctctctct ctctctcttc tctatcttca tcttcgtcgt 60
cttgatcgct ctcatctcgc tctcgcgaat gttgtctctc gtcttctcct ctgtccgcca 120
ttcaaagatc acctattctt tccgtttggt ttgcggtgac taagaactct ttctctctct 180
cgctctgtgt cactcttgct ttctcccgac ttttctggga ttgatgaaaa tggcggaaag 240
atcgaactcg tcggacccgg aaacaagccc ctcgaactca ccctccacct cctcgtcttc 300
ttcctcgtac tcgcccgacc cgcgccgccg ggccggctcg cccgccgcgg cccgcgaccc 360
gttgagatcc tccaagcgga gcaagcaccc ggtgtaccgc ggggtccgga tgaggaactg 420
gggcaagtgg gtgtcggaga tccgggagcc ccgcaagaag tcccgcatct ggctcgg 477

<210> 257
<211> 351
<212> DNA
<213> Eucalyptus grandis

<400> 257
ggaaatggag gtcaaggttt aggatggccg ggtttcaaca gttcccattg agttctgcag 60
ttactgatgc tgtcagaaat ctattaaggg aatataacga gaattataga atcgaagaga 120
aggatggagc tctttatctc tggtggagga atcgagctat ggcaacttct tctgcgtggt 180
ggtgaaactt gtgggttttg acgagtctgt aaagttttgt actagttgta gttcatgttt 240
agcttgatga ttagctttaa ttctacttcc ataggatcaa gggagcaatg tctagaactt 300
ccactacact gtcataaaat tcccaacttg aatttgaaaa aaaaaaaaaa a 351

<210> 258
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 258
tggtgtaggg ttccctgatc ctgggcccga caatggccag gtgctggatg ctcgggaccc 60
actggccgag aagaaacttg aacttgcaac ctgccaaagg agggtagaag aagaaatgct 120
gaaacattcc aaggcagtgg aagtgacgag gacaagtacc ttgaacaatc ttcaaacggg 180
tctgccagga gttttccagg cattagccag tttttcatcc ttgttcatgg aggtccttga 240
cacggtatgt acccgttctt atgctatcaa atagacatat gtatacacat tctttcggtc 300
cggtattttt gttgaagtgg gaaagatgag agctgggtaa ttttggcggt tagctctcgc 360

<210> 259
<211> 318
<212> DNA
<213> Eucalyptus grandis

<400> 259
tccttcctcc ctccctctcg ccccttctga atagcccgag atatttaatt ctctctcctc 60
cgtttctctc ctcctcccgc tcctcctcct ccatcatttc ctcctgaacc ttctggaatc 120
cgtcatcgtc tcgccagctc cgatcttgtc cccctcgctg ccatggccgc cccgccggcg 180
gagcagagcg gctcggcctc cggcggagag agccagcgct ccgtccccac cccgttcctc 240
accaagacgt accagctcgt cgacgacccc gccatcgacg ccgtcatctc ctggaacggc 300
gacggctcct ccttcatc 318

<210> 260
<211> 503
<212> DNA
<213> Eucalyptus grandis

<400> 260
cctaaatcag ctgcgaagtc gtcttatcct cttcgattcc tgaagaatcg tgtcgctctt 60
ctcctcctcc tcgacgatta agaatccgat tttgatcgcg gcggtcgatc gtcggcggct 120
ccgattcggc ggcggcggag gcggaagatc ggttgctcgg cgcagcttcg cgtttttccg 180
gctcgaatcg cgctgccggg tgaggtaggt gagtgtcggg atcgtgtttt tccggaggtc 240
ttcgcggcgt cgcttctgtt tgatcggatt gtggtctgat tagcccccc taacttacgc 300
cggcgtgttt gggttagggt tcggttcggt tgggggtgtt tcgaagatgg acccgatgga 360
tatagtgggg aaatcgaagg aggatgcgtc gctccccaaa gcaactatga caaaaattat 420
aaaggaaatg ctaccgcccg atgttcgtgt tgcacgagat gctcaagatc tattaatcga 480
gtgttgtgta gagttcataa acc 503

<210> 261
<211> 546

<212> DNA
<213> Eucalyptus grandis

<400> 261
agaagcgctg agttcttggt caaagtctag cagtttcggg ttctccatca atcgagtcgg 60
agtgggagaa aatgagcaca aatggtttgc tgaagtttga ccaaagtctt tagtgagatg 120
gttgctgtct ccccgttctc ctccaaacag atgtctgatc aaataactta cttgaccgcc 180
agtatgaact ctcctttagc ccagcttgtt aacccaagaa ggatgcacac ctacgagcca 240
tttgaccagt tccccatgtg gggagacacc ttcaaagctg acaaggtcaa aaatctcgag 300
gcatcgtcat ctgtgatcgt gcatgcagta gatgatggat tggacaagaa gtttgaatat 360
gtttctcatg aatcggcaga aaattccagc tccaggagcg atcaagaagc aaatagacct 420
gacaaggtac agagacgtct agcacagaac cgtgaagctg ctcgaaaaag ccgtctgcgg 480
aagaagaaat atgtacaaca actagaatca agccgcttga agctagcaca gttggagctg 540
gaactc 546

<210> 262
<211> 883
<212> DNA
<213> Eucalyptus grandis

<400> 262
gcttcgtgta cgggatcatt cccgagaagg gcaagccagt gagcggtgcc tccgacaatc 60
tccgagcctg gtggaaggaa aaagtgaggt tcgaccggaa cgggcccgcg gcgatcgcca 120
agtaccgggc ggaccactcg atccccggga acggcgagga cgcggccacc atcggcccca 180
ttcctcacac cttgcaagaa ctgcaggaca ccactctcgg gtcgctctta tcggctctga 240
tgcagcactg caatccaccg cagcggcgat tcccgctgga gaagggcgtg gctcctccgt 300
ggtggcctac aggagaagag gagtggtggc cccagcttgg cctgcccgcc gaccagggac 360
ctccgcccta caagaaacct cacgatctca agaaggcttg gaaggtgagc gtcctcacgg 420
ctgtcatcaa gcacatgtcg ccggacatct ccaagatcag gaagctcgtc cgtcagagta 480
aatgtctgca ggataagatg accgcaaagg agagtgccac gtggctcgcg ataatcaacc 540
aggaagaagc tctgtccagg aaattgtacc ccaatagctt cccgcccgtg tgttcggaca 600
gtggatttgg gtcctatgtc atcagcgatg ctagtgatta tgatgtggaa ggagctgatg 660
atgaaccaaa gttcgaggcg gaggaatgca agccttttga tccaagtgct tttggcatcg 720
ggccaagggt gtctacaggc gagcttttga tccatccact ggtttctcaa atcaaaggag 780
aagttaatga aaccaaaacc aattcgcggc tagtttcaaa gaggaatcaa ccatccgatg 840
agccgaaggc gaagatggat cagaagatat acacatgcga gtt 883

<210> 263
<211> 454
<212> DNA
<213> Eucalyptus grandis

<400> 263
gttcgacgag ttcacagcga gctgacaaat cattgatcat ggagcatgag tttagttcgg 60
ctaaaatcaa agctcttctt gagattctac agtcgcaatg cagaggagaa agtgcaaatg 120
cagagcttca tggtcccatg ggctgtgacg atgagtctct ttttgaaaat acaggcaccg 180
gggattctac atacagagtt aaagctgtta agcacacaac tgtttattca agttctcctc 240
ctgaaggacc aattaaagca attgtctttt ctcagtggac gagtatgtta aacttggttg 300
aacaaaatct gatccatttt ggcataaatt atagacggct tgatggaaca atgacccttt 360
ctgcaagaga caaagctgtg aaagatttta acaccgatcc tgagatagtc gttatgctaa 420
tgtcattaaa agcaggaaac cttggtctaa acat 454

<210> 264
<211> 579
<212> DNA
<213> Eucalyptus grandis

<400> 264
agtgaattcg gtggggagtt aatgaatcca agaagcaact ggctaattgt atataatgat 60
gatgagggtg acatgatgct tgttggggat gacccgtggc aggaattttg tggcattgtc 120
cgaaagattt ttatttatac tagagaggag gttcaaaaga tgaagccagg gactattagt 180
gccaaagatg aggacaattt gatggtcgat gaaggggtgt tttcaaagaa aatgacttcg 240
gacacgctgc cttcggcgtc tgacccaaag aactgttaaa attctctcat gtctgtgagg 300
tctttaaagt cattggagaa gcctaatcca gccgctacag ttccctgatg ctgaaattca 360
tctttgtcca cggggactgc acataatctt ctctgtctat atcctctgtg cttcagtgac 420
cattttctgc cccgcaaagc cgtatttgta tcatcaatgg gattcttgga tttggcttca 480
agatgcatgg ccccctgagg aggccagaga gcctgacaga gaactacggc agattgaaaa 540
ggagagaaat gaggcctgtt cgtattcagc attttgaga 579

<210> 265
<211> 366
<212> DNA
<213> Eucalyptus grandis

<400> 265
atcgaggccc tgaaaaaacg gttggacgat gtgaatgcca agtatgcggt ctcggtcgag 60
ttcaccaagg ccatggcact gaaccacctc aagaacggcc tgcctcgcgt ttttaaggca 120
ttgatggaat tctcaggtgc ttgcactaag gtattcgagg ctttgaataa cccccgcgag 180
caggtaggca gtcgtgagaa tgagccgcgg gttttgcctg cgtgatttca tggatgcctc 240
aggccgtgtg tataatttgt ttcaacattt ggtaaacctt gataaggtgt cattgcattt 300
gcatagaaat actgtgaaat tctttttaa ttttggtttg atcttagctt gaaaaaaaaa 360
aaaaaa 366

<210> 266
<211> 376
<212> DNA
<213> Eucalyptus grandis

<400> 266
gcagattctc cccccgaacg ccaagatctc gaaggaggcg aaggagacga tgcaggagtg 60
cgtttctgag ttcatcagct tcgtcaccgg tgaggcctcg gacaagtgcc acaaggagaa 120
gcgcaagacc gtgaacggcg atgacatcgt ctgggcactt gggtccctag ggtttgatga 180
ctatgccgag ccgctcaagc ggtacttaaa tcggtatcgg gaggtcgaag gggagagggc 240
cagccaaaac aaggtcacag gcggcgaatc aagaaacgag aagaacttgt acggggatga 300
gtcgccggag aagcagctgg gcgctgcctc ttcgtcgcct ctgaagttct ttgatgtggc 360
cgacaggagt accaat 376

<210> 267
<211> 341
<212> DNA
<213> Eucalyptus grandis

<400> 267
gtcaactcgg tgttcgagct gcacaagctg ctggcccgcc cgggggcgat cgagaaggtt 60
ctgggcgtgg tgcggcaggt gcggccggcg atcgtgacgg tggtcgagca ggaggccaac 120
cacaacgggc cggtcttcgt ggaccgcttc aacgagtcgc tgcactacta ctccaccttg 180
ttcgactccc tggagggctg cgccagcacg caggacaagg ccatgtcgga ggtctacctc 240
gggaagcaga tctgcaacgt ggtggcgtgc gagggcgccg accgggtcga gcgccacgag 300
accctcgccc agtggcgggt ccgcctcggc ggcgccgggt t 341

<210> 268
<211> 343
<212> DNA
<213> Eucalyptus grandis

<400> 268
tcgctgttca atacctccaa gtcgaacaag cacctctggg agcagatctc gtccaagatg 60
agagagaaag ggttcgatcg ttccccgacc atgtgcacgg acaagtggag gaacctgctg 120
aaggagtata agaaggccaa gtaccaggat agaggatccg cgaagatgtc gtattacaag 180
gagattgagg agattctgag ggagaggagc aagaataatc agtataagag tccgacggcc 240
tcggctttga aggtcgatcc ctacatgcag ttttctgaca aaggcattga ggatgctggg 300
atgactttcg gacctgtaga agcaagtggt aggccgactc tca 343

<210> 269
<211> 546
<212> DNA
<213> Eucalyptus grandis

<400> 269
atgacctcga actaaaagtg cgagaactgg aaactgtcat gctaggaccc agctcagata 60
tgccccacac ggttgatatc aacttcttgg ttggatctgg ccagatgtct caggagacgg 120
agacattgat ggagattatc tccaggaggg acctaaagga gattctctgt gcttgtgcta 180
aagcagttga agacaacgac accttaaaat ttgagtgttt aatatcagag ttacgcccga 240
tggtgtctgt ttccggtgac ccgatccaac gattatcagc atacatgttg gaagggctca 300
tagcaagatt ggcaagttcg ggaagctcta tttacaaagc tttaaagtgc aaagagcctg 360
ctggtgcaga gctgctatcg tacatgcaca ttctctatga tatatgtcct tatttcaagt 420
ttgggtacat gtcggcgaac ggatcaatcg cagaagtcat gaaggacgaa aacattatcc 480
atataatcga ttttcagatt gctcagggag gccagtggat caccctgatt caggctcttg 540
cagcac 546

<210> 270
<211> 283
<212> DNA
<213> Eucalyptus grandis

<400> 270
ccccatttc ccgtttctcc catattcctc aagcactctc atttagggaa tgagtgctta 60
gaagccacct caagtttcaa atttttttcc tgcgcagttc tcaattcaaa tggcacgtag 120
ctcatgtaat cagaaactga ggaaaggttt atggtcgcct gaagaagacg agaaactgtt 180
caattatata agtagacatg ggttgggatg ctggagttcg gttccgaagc tagctggttt 240
gcagagatgt ggaaagagtt gcagattgag gtggatcaac tat 283

<210> 271
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 271
atttcttcct ggttcttgat agaagattga aggttctaga acaagaggaa gaaagctagt 60
gcaaaagaaa gaaagtaaaa agaggtattt ctgctgcttt attagtttat tgtggagtat 120
ggcaagtgga atggagaacc ggggggaaat tcctgcgaat ttgaagaaac agcttgctct 180
ggctgtgaga aaaatccaat ggagctacgg aatcttctgg tccatctcaa ccagacagcc 240
tggggtcttg gagtggggtg atgggtacta caatggagac atcaaaacca ggaaaacaat 300
tcaagctgtg gaacttaata ctgaccagat tggtatgcag agaagcgagc aactgaggga 360
actatatgag tctctat 377

<210> 272
<211> 548
<212> DNA
<213> Eucalyptus grandis

<400> 272

```
ggaatatcca gaggaatgag taccataatc tttttaactt catcagtggg aaggggttga    60
agatcatgaa cttgggagag cagggcgctg atggagtacc aggcgttctt gatgtggatg   120
acgacgatgc tgtcgatccc catcttgagc gcatcaggat tgaagccggt gtagatgaaa   180
gtgatgaaga ggatgaagat tttgtcattg ataaggatga tggaggatct cctactgatg   240
attctggaga tgacgagtcc gatgtcagtg aaagtggaga tgagaaggag aaagagaagt   300
atgggaaaaa ggaatctcga aaagaagtca aagcatcatc aagcaagaag aaagcaaaag   360
ctggagatga agaggggtcg aagaagaaga aacagaagaa gaaagacccc aatgcaccaa   420
aaaaggctat gtctggttat aactttttct tgcagacgga aagcgagaaa atgaagagaa   480
ctaatcccgg tctttccttt ggggatgtat caagagaaat tgcagacaag tggaggggtt   540
tgtcagcg                                                            548
```

<210> 273
<211> 420
<212> DNA
<213> Eucalyptus grandis

<400> 273

```
tctctctctc tctctctgtg aagatcctct ctagcgataa atcactgttg cccatttctt    60
ccttggctcc gttctgttgc ttcctctctc tgtcttcgac acttcaactg tgcgagccca   120
aaaatcgatc cttttctgct tccttttgcc tctgttccaa gagtcaattg atactgggtc   180
gatctggtcg gcaacttttg ttggaagttt gaggaatctg attgagagaa gaggtagatc   240
taaaggatca aaaggatgtc atttaccggc acccaagtta aatgcaaggc ttgcgaaaag   300
acagtttatc ctgttgaaca gttatctgcg gatggggttg cataccacaa gtattgcttc   360
aagtgcagcc actgcaaagg cacattaaag ctgagcagct actcctcaat ggaaggagtt   420
```

<210> 274
<211> 454
<212> DNA
<213> Eucalyptus grandis

<400> 274

```
gataaatcgt cttcaccagt acctccgcag gatcagacgg gtgttcatgt ttatcatcct    60
gattgggctg ctatgcatgc atactatggt ccaagagttg ctcttccgcc ttattataat   120
tctgctgtat catctggtca tggtcctcat ccctacatgt gggggccacc acagcctatg   180
atgccaccat atgggccacc ttatgctgca atatactcac atggaggtgt ttatggacat   240
cctgcaattc ctcttactcc gactcccttg gctgcggaaa ctcctaaaaa gtcatctgct   300
aattctgata atggactggt gaagaagttg aaaagttttg aagggcttgc aatgtcaata   360
ggcagtgggg gggatgcaga cagtgctgac gatgggactg ataaaaggtc atcacagagt   420
gcagactcgg gagactcaag tgatgaggat caat                               454
```

<210> 275
<211> 620
<212> DNA
<213> Eucalyptus grandis

<400> 275

```
gcgatttaaa cagctactgg aggaggcatc acaggatatt gatcacacaa ctgactatta    60
cacttttaga aagaaatggg gcaatgatcc acggtttgag gccttggatc ggaaagatcg   120
agagaattta ttgaatgaaa gggtcctccc tttaaaaaag gctgctgaag aaagggctca   180
agcaatgcgt gctgctgcca cttctagttt taaatccttg cttcgagata gaggagatat   240
aactgtcaat tcccgttggt ccagggtaaa ggatagtctc agggatgacc caagatacaa   300
gtcagtgaag catgaagaca gggaggcctt gttcaatgag tatatagctg aattgaaggc   360
tgtggaagac agagaagaaa aggaggcaaa agctaagagg gaagagcagg agaagctgaa   420
ggaaagggaa agagaattgc gaaaacggaa ggaaagagaa gaacaagaaa tggagagggt   480
acgagtgaaa atacgcagga aagaggcaat tgcatctttt caagcattgc ttgttgaaac   540
aatcaaggac cctcagcttc ctggacagag tcaaaagtta aacttgacaa agatcctcag   600
```

gacgtgcgag taatcctgat 620

<210> 276
<211> 340
<212> DNA
<213> Eucalyptus grandis

<400> 276
gagataaaga actactggaa tacaagaatt aagcgactgc aacgcactgg catgcctata 60
tatccaactg aggtttgtct gcaagtgtca agtgagaatc aagaaactca taacatgggt 120
aacttgcata ctgcaggcga agataattgt gatctctcac aggcagatcc actcgagatc 180
ccagaggtgg attttagaaa actggaactg catcttggtt tctcgtcttt ttggtctaca 240
cttctggacg ttcctccttg tggctttggg agagaggcaa tgtgtctatc tgatgcttac 300
tgccttccat ttccatcaag ccggtctcct aaacgccttc 340

<210> 277
<211> 351
<212> DNA
<213> Eucalyptus grandis

<400> 277
cgacgacccg catacccgct gccaatctgg aggacctatt tgacaaccat aacatggctc 60
gaatacggga cgtatgggcc ccgaatcttg agatagagat gcagaacatc cgcgaggcca 120
tcgagaaata ctcgtatgtt tcaatggaca ccgagttcct gagtggggcg cggcccatag 180
gtaacttcaa aacgtcctcg gactaccact accagacgat gcgctgtaac gtcgaccttc 240
tcaagatcat ccaagtcggg atcacgctgg cagacgagga ggggttgttc ccgcaggact 300
gctctacgtg gcaagttcaa ctttaaattt agtctttggc gacgacatgt c 351

<210> 278
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 278
gcagccgagt cgagcaagaa actaacgaac gcccggtgtc attaggattc ataatccaca 60
agaacaaaag aaaaaaggat catgggaaga tccccatgtt gcgaaggcaa tggcctgaag 120
aaagggccct ggtcttctga ggaagacaag aagctccttg attttatcca gcagcacggc 180
catgggagct ggatctctct ccctaaacgt gcaggtctta atagatgtgg caagagctgc 240
agattgagat ggataaacta cttgtggccg gacatcaaga gagggagttt ctccccggaa 300
gaagaacaaa ccatcttgca tctccactcc gtgctcg 337

<210> 279
<211> 383
<212> DNA
<213> Eucalyptus grandis

<400> 279
ctccaacgcg cgccttcttc tcctggactc ctctgagctc tctccatctc ctccggctcg 60
gcgcggccgt cgctcgacgg cgacgactcg agggtttcca tataattcac ttgaaagaag 120
ctgcagaatg ccgtggaaaa caggacttac cggctctaaa acggaagaag ataaggctct 180
gcagctttgt cgggagagaa aaaaatctgt taggcaagct gttgatggtt ggggctccct 240
tgtgtatgca catttcatgt ttgtgcaatc attaaggaac gtagggacag ctctcacaaa 300
gttctttgaa acagaatctc caaatgggtc tccctcgtat gcctcaatga gtacaacacc 360
tgagccaatc gcattaaccg aga 383

<210> 280
<211> 312

<212> DNA
<213> Eucalyptus grandis

<400> 280
ggtttgctca gatgcagcaa gagctgcagg ctcagatgga ctaattacct ccgtcccggt 60
atcaagcgcg gtagcttcac ggaccaagag gaaaagatga tcgtccacct tcaggctctt 120
cttggtaata gggggcggc catagcttcg taccttcctc agaggactga caatgatatc 180
aagaactact ggaataccca tttgaagaag aagctgaaga agcttcaagg ccaagcaaat 240
cctgatgatg atgaccataa tcatcaccca caagggttca acgcaacttc acactccaac 300
cccaagggcc ag 312

<210> 281
<211> 311
<212> DNA
<213> Eucalyptus grandis

<400> 281
gagatggcga ggacaccatg ctgtgagaag atggggatga agaaagggcc gtggactcca 60
gaggaagacc agatcctgat ctcccacatc caccagtttg gtcactcaaa ctggcgtgca 120
cttcctagac aagcaggtct gttaagatgt gggaagagtt gcagactccg gtggataaac 180
tacttgcgac ccgacgtgaa gcgagggaac ttcaccgacg acgaaagaga caccatcatt 240
gaacttcatc aagttcttgg caacagatgg tcggccatag cctcgagatt gccggggcga 300
acggacaatg a 311

<210> 282
<211> 378
<212> DNA
<213> Eucalyptus grandis

<400> 282
catggacagc tgaagaggac aagaagctca tcaacttcat cctcacccat ggccaatgct 60
gttggcgggc tgttcccaag cttgctggac tgctgcggtg tggaaagagt tgcaggctga 120
ggtggaccaa ttacctgagg ccagacttga agagaggcct tttgtccgag tatgaagaga 180
aaatggtcat tgacctccat gcgcaacttg gcaacagatg gtcgaaaata gcctctcacc 240
tcccgggaag aacagacaat gagatcaaga atcactggaa cactcacatc aagaagaagc 300
tcaagaagat gggcattgat cctctcactc acaagccatt agtcaccaac aacgacaaca 360
caaccgatca acaacccc 378

<210> 283
<211> 389
<212> DNA
<213> Eucalyptus grandis

<400> 283
ctccctcctc ctccaaacgt ttccgtttct ctccaagctg aacatggaca agaagccaga 60
cgacgacagt ggtaagtccc aagatgtcga ggtgagaaaa gggccgtgga cgatggaaga 120
ggatctcatc ctcatcaact acatagcgaa tcacggcgaa ggcagttgga actccctagc 180
caaagctgct ggtctaaaac gtaccgggaa gagttgtcgg ctccggtggc tgaactatct 240
gcgacccgac gtccggagag gcaacatcac tactgaggag cagctcctga tcatggaact 300
gcatgccaag tggggaaaca ggtgagatgc acataagtca cacaactttt cgttacatag 360
gttctacaac ataataccca tcgatcata 389

<210> 284
<211> 385
<212> DNA
<213> Eucalyptus grandis

<400> 284
ccaatggtga cagtgttaag gatgaccttg atacagatga atatgaaact catgccacag 60
ttttggataa gctattagca tgggagaaaa agctctacga agaagtgaag caaggtgagc 120
acatgaagct agagtatcag aaaaaggtgg ctttgctaaa caagcagaag aaacgtggtg 180
ctagtggtga atccctggag aaaacaaaag cagctgtaag tcatttgcat acgacataca 240
tagttgacat gcagtccatg gattcaactg cttcagaaat aaaccacata agggacaaac 300
agctgtaccc aaagcttgcg caacttgtcg atgggatggc gaatatgtgg gaaaaaatgc 360
gcatgcatca tgataagcag gagtc 385

<210> 285
<211> 461
<212> DNA
<213> Eucalyptus grandis

<400> 285
caccggaaac agtccatgtt cagaattatt ctccaattca tcaaatgggc attgatggat 60
tctttccagc gcatccctcc ccacagaatc cttcgtacca ttcttactcc cccaacaata 120
gacccaattt ccctcctccg tcccctcaaa cttcacagtg ggactatttt tggaacccct 180
tttcatccct ggactactat ggataccccа ctcggagtag tattgatcat atggctatgg 240
atgatgagac cagaggattg aggcaggtcc gagaggaaga ggggattcca gacttggaag 300
aagaaactga gcacgaagaa tgtgatcacc actcgtatgt tgatgaagat agaggcaaca 360
gagatgctaa tttccccact gaggaagttt tagtggaaga tgttgatgac gaggaagagg 420
atgaggatga aggaaacaga cacagctgtg aatctgagga t 461

<210> 286
<211> 438
<212> DNA
<213> Eucalyptus grandis

<400> 286
gtactgcggg ctcagctgat ggaattgacc gacaggctgc ggtccttgaa ttcagtgctt 60
caggtcgtgg aggtggttag cgggctcgcc atcgatatac ccgagatacc tgatccgctt 120
atgaacccat ggcagctgcc ctgcccgatg cagccaatta cggcgtctgc cgacatgttg 180
cagctgtgag catcagattg gaagtgtaaa agttggggct gattcttttg gagtcccctt 240
ctgggggat ggtagatcca tagccatttg ctgcttttgt ttttcttgtc aattccgttc 300
tctttcttga agttggaact ccaatatctg tatgcgtctg tctagatgga ctggcgcttt 360
tatgtctgct tgacattgta cttggctgtt cttgcttgtt acttatggga tgttcctgtt 420
ctaaaaaaa aaaaaaaa 438

<210> 287
<211> 405
<212> DNA
<213> Eucalyptus grandis

<400> 287
ctgaccttaa cagctgcaag cactgttata tttgcagagc tatcgtggac accgggtgat 60
ctgatccaag ctgaagatcg tgctcacagg attggtcagg tatcttcagt taatatatat 120
tacctgctgg caaatgacac tgttgatgac ataatatggg atgttgtcca gagcaagttg 180
gaaaatttgg gtcaggtgct tgatggccat gaaaatacat tggaagtctc agccagccaa 240
ccaactagaa acagccctgc aaagcaaaaa acctttaata gccctggcaa acagcataca 300
tttaatagcc ctgggaagca gcaaaaattt aatagccctg gcaagcagac aacactcgac 360
tcgttcatga agcgttgcaa tagtggtgac ccctctgaac atcag 405

<210> 288
<211> 515
<212> DNA
<213> Eucalyptus grandis

<400> 288
ccctcttcct cttcctctcc ctctctctgt cgcagagctc cgtctgaact cgcagaatcc 60
acgcgcagag cgacccaaga gtgtttcaga acagtccgtc catggccttg gaagctatca 120
actctcccac cgcggcctca gcgccgttcc agttcatgga ggagcccttg agctcccgct 180
tcttggagcc cctgaacaag cgcaagcgct ccaagcgccc ccaccaccct ccctccgaag 240
atgagtacct cgccctctgc ctcatcatgc tcgcccgcag cggcgccgcc cccaagccca 300
accaccacgc ctcgcccgct cctcttcctc ctcctcctcc tcctgcgccc actaagcctg 360
aagaagccgc ggcgaccgcc acggcaaccg cggccccggc gaataacttg agctacaagt 420
gcgccgtctg cggcaagggc ttcccctcct accaggccct cggcggccac aaggccagcc 480
accgcaagtc ggccgccgcc gccgccgccg ccgcc 515

<210> 289
<211> 375
<212> DNA
<213> Eucalyptus grandis

<400> 289
ggcaattgct cttgtcctag ccaaacggga aatcatccgt agcataggca ctggattgga 60
ctggtcctca ccttcggcag gttcatcgac aagtttgcct gaaattaaag gaacccttgt 120
catatgtcct gtggttgctg tgactcaatg ggttggtgag attaattgct ccactgccca 180
aggaagcact aaggtcctag tatatcatgg agcaaataga ggaaagactg ctgatcagtt 240
caagaacttt gattttgttg taaccacata ttcacttgtt gaaggcgagt acagaaaatt 300
tgtgatgcca cccaagaaga agtgcattta ttgtgggaag ttgctttaca aggagaaaat 360
gacagttcac cttag 375

<210> 290
<211> 590
<212> DNA
<213> Eucalyptus grandis

<400> 290
cccagattta ccaggagatg acttagcatt ggaattcgag gaattcgatt tccagagcct 60
gttcgacgaa ttatcgcctg atgccgcggg ccttctcgac gccagcgatg tcgatgcttc 120
gtctccggga tcgctgtcct cgtggatcgg cgagatcgag ggcatgctga tgaaggacga 180
cgaggaagcc gtcgccgtcg agccgagtca ggaggtcttc gatcgcttct tcgccggctt 240
gctcgttgat tcccccgagg gcggaccggc cgaggcgacc gacggcgcga gcgacaagga 300
gtccaattca tccgacggcg gcggcggcgg cggcggcgaa cgggatgaga agctggtcgt 360
cggagataac gagctttccg aggacgctga tgatgatgat cccgtctcta agaaacagag 420
aaggcagctc aggaataagg atgcggcggc taggtcgagg gagaggaaga gaagttacgt 480
gaaagagctg gagatgaaga gcaaatatat ggaaggggaa tgccgcaggc tggggcggtt 540
gctccagtgc tttgtggctg agaatcaagc tctgcgtctg aatttggaga 590

<210> 291
<211> 307
<212> DNA
<213> Eucalyptus grandis

<400> 291
gtgatttcga gtcagagcat gcaccttgga gttcttgcaa ctgcctccca tgctgtcaca 60
actcaaactc tgtttgtagt ttattacaag ccaaggacta gtcaattcat cataagcttg 120
aacaaatatt tggaggctct taacaataaa ttcacagttg gaatgagatt caagatgaga 180
tttgagggtg aggattctcc agagagaagg ttttctggta caattgttgg ggtggaagat 240
ttctcacctc aatgggataa ttcaagttgg cgatcattga aggttcactg ggacgaacat 300
gcgtcat 307

<210> 292

<211> 209
<212> DNA
<213> Eucalyptus grandis

<400> 292
gttcaatcag ctcgacccga ggatcaacag gaagcccttc agcgaggaag aggaagagag 60
gctcttgact gcacacaagc tgtgtggcaa taaatgggcc atgatcgctc ggctcttccc 120
cggccggacg gacaacgccg taaagaacca ctggcacgtg atcgtcgcga ggaagcagag 180
agagcagtcc aacaacgccc gcggccgga 209

<210> 293
<211> 224
<212> DNA
<213> Eucalyptus grandis

<400> 293
ctcagaagta cttcatcagg caatctaacg tgtcaaagag aaaacgacgt tccagtctgt 60
ttgatattgt ggcagaggaa tcggttgatg tgccaatggg atcaagggac ttctttgcgg 120
tcgacgagca acagcaggaa acagaagtaa atgatgcctt gcagcagctg ccacctgatg 180
ttgatgaaga atgtgaatct atggactcca ccaactcaaa tact 224

<210> 294
<211> 185
<212> DNA
<213> Eucalyptus grandis

<400> 294
ttcttcttct tctagacatg aatctcgaca tccaatccct cttctaacca atgggcagcc 60
gatgtctggt gaaatcccct gtgctagtat tgacagccca tctgttagga ctacatctgg 120
acctctgggt ccttttgata aacatgtgca ctcgcttccc tatgttgatc ccagacagcc 180
agttc 185

<210> 295
<211> 428
<212> DNA
<213> Eucalyptus grandis

<400> 295
tcagcccgcc cctctccgcc cacgtggcca gccacaaggg gctccatcaa gcgagcaagc 60
ccaagatcca cgagtgcaac atatgtgggt ccgagttcgc gtcgggtcag gccttgggcg 120
gccacatgag gcggcacagg tccgccccgc cgccgacggc caccagcgcc gacgcgacga 180
gccccaccaa cccgccggct gctgcggcca tcaccaccga gaagtcccgc aacatcctct 240
ccttggacct gaacctgccg gccccgaacg gaggaggatc accaccacca agcgcaccgc 300
cgccgggaga actcgaagtt ccaattcgcc acaagtcaac agcccatcat actagcctcg 360
cccgccttgg tggattgcca ctactgaaaa aaaaagaaaa gacgggttca catgtcaatc 420
aatgtaac 428

<210> 296
<211> 418
<212> DNA
<213> Eucalyptus grandis

<400> 296
gcagtttcgg atattaattt ggtttccaat agcacacata gttcatacga agatggggga 60
agcccacgga gaattacatc agaaagtgac cctaaagatg ctccaatggg aactgagagc 120
cttttaagtg cacctgaagc agtagagctt tcagatacag ggacttcctt cacgttcaag 180
atggattcat ctatgcaaag gaaaccacca gtagatgaaa gcccaaggat gcatccgttg 240

cccatgaatc taactactga agagggagat aacaatgttt cgtgccaact aaatctatct 300
cttgcatctt ctctactgca agttgaccac agtcaacaat tcaatcgttt gaatgtgcta 360
ggttcagaaa ctagcaagtc tccagatgca aggtcaaatg ccagcatcac agaatctg 418

<210> 297
<211> 250
<212> DNA
<213> Eucalyptus grandis

<400> 297
tgcacccaga gtataactcg agtccagtgg gttacatgga gaccaacaag gctcgtttgg 60
tgttggagaa ggacgactta gggttgaatc ttatgcctcc ttcgacttgt taaggttctt 120
ggcgatgatt atgatatgat gatcagtttt tcctgcatta tttgaagaag ctgaggctga 180
ggtttcttgt cttttctttt tcctttttgt tatttttgaa gaggttttct tttctctatt 240
tcccccccca 250

<210> 298
<211> 626
<212> DNA
<213> Eucalyptus grandis

<400> 298
agaacatagg tgcgaaggcc gatgtgttcc acatactctc tggcatgtgg aagacgcccg 60
ccgagaggtg tttcatgtgg ttgggcggtt tccgttcatc tgaacttctc aagatactag 120
ggaaccacct ggagcctttg acggatcaac agttgatggg catatgtaat ctgcagcaat 180
cttcacaaca ggctgaagat gctttatctc agggaatgga agctctgcag caatctctcg 240
tggacacact ttcttcgacc acactgagtc ctactggttc aggcaacgtc gcagaataca 300
tgggccaaat ggctattgcg atgggaaagt tggccactct cgaaaacttc gttcaccagg 360
ctgacctctt gagacagcag acgctccaac agatgcatcg gatattaacc acccgccaag 420
cagcccgcgc tcttctcgtc atcaatgact acatctcacg tctccgagct ctaagttcat 480
tatggttagc tcgtcctagg actgaaaaca tctgttctgc taaactcttc tgatgtaatc 540
gatagttttg attgaaatta acgtttctag tggggatcca tttactgcga ctgtagcgat 600
tcgggccaca tttatataaa agctat 626

<210> 299
<211> 438
<212> DNA
<213> Eucalyptus grandis

<400> 299
aaagaagaga ctaatggtcg catctgcatt cggagaggac gagaaagcgg gtcgtcaaac 60
ccgcctaacg gtggaggact tgaactactt gtttatggcg tgattcggaa ggtctaattt 120
tgcggatcgc aacacatcat ttactaacct tagtgctgcc tggtagagtt tgttctgagt 180
agcggcagcg gccttatact tagtgatttc gacagaagcg attggctgga gattgatcaa 240
ctttcctgct tcaccattat ttgttactgt acagcgcgcg acagatagca acatctaaca 300
gtaaagatgc aattttttttt tcccctgaaa atgtaaatga tatagggttt ttgttctatc 360
tctgtgctct cctccattcc ttatttgtat acggagatca caaacttgag gtcagtgaat 420
ttgataatta tgtcttgc 438

<210> 300
<211> 345
<212> DNA
<213> Eucalyptus grandis

<400> 300
ctctcgttcg cgttctccgt ctcatccttc cttttgccgg tgggtttccg gtcgagatag 60
cggagggttc ctgattcaga gggcggcggc ggcagcgacg acgaggagga gctccgacct 120

cgaagcgctt cggtccgatt cctcccttgc ggtcgcgcgt gtctgacgga cgagtcgttt 180
tttggcggga gatgagagat ctgtgcctcg accagagaga aatggcgtcg gggagctcca 240
gggtcgaggc ccgagctgat gcggagatgg cgctctacaa cgagctctgg caagcctgcg 300
ctggtcctct cgtcgccgtc cctcgtcaag gcgagcgtgt cttct 345

<210> 301
<211> 454
<212> DNA
<213> Eucalyptus grandis

<400> 301
catattttca tgctgctacg ccccgtcctt tggcctgcat ccatggccaa tcagccaccc 60
ggtgagcccc aaccaaatcc gccaccgcca ccgccaccag ccccagcgat ccaaatccct 120
gaccaaccac cgcataattc gccttcttct tcttcttctt cttcttcttc ttcttcttca 180
ttggccacca ccggtgatcg gggcggttcc tcgcctagac cgatgctttc tccgagcggg 240
tcgtcgccgc tggctcaatc cacagggagg cacccgcttt accgtggagt ccggtcccgc 300
agcgggaagt gggtctccga gatccgcgag ccccgcaaga ccacccgcat ttggcttggg 360
acatacccga atcccgagat ggccgccgcc gcctttgacg tggccgcgct ggctctgaaa 420
ggctccgacg ccgccctgaa cttcccccat gatg 454

<210> 302
<211> 286
<212> DNA
<213> Eucalyptus grandis

<400> 302
tttcccgcaa gggcacatgg aacagctgga ggcatcgaca aatcaggaac tgaatcagag 60
gattccgctc ttcaacctca cttccaaaat tctttgccag gtcgtgaacg tccagctcct 120
ggcggagcaa gaaacggatg aggtttatgc acagattact ctaattccag cgggaaatct 180
aatggagcct acaagtcccg atccagtctc tgcggaaact ccaagaacaa gagttcatag 240
tttctgcaag gttctaactg cctctgatac cagcacacac ggtggc 286

<210> 303
<211> 513
<212> DNA
<213> Eucalyptus grandis

<400> 303
cagaggacaa ggtaaaaaag gggcagccct ctgctctgtc tgaattgccg tctctcccta 60
cttctctggg cttctttttc tttgcttccc ttccttaaac tctccctctc cccgtttctt 120
gtctggtttt tctgggtgct ctcgcttttc gctgctgaag gagtgagttt gaccgtcggg 180
ttcctttctt gatcctccaa ttcgatcgtc agctcctcgt gtcgactttt ttcgggtttc 240
ctgtcggcac tgttcgattc ggattcctcg acggaatggg gagtaacatc aacttcaaga 300
acttcagcac cgatccgacg ccgacgaata acaggcctcc tggcaacacg ctgttaaccc 360
ggcaaccgtc ggtgtacacg ctgacctttg aggagttcca gaactctata ggcaaggact 420
ttgggtccat gaacatggat gagctcataa agaacatttg gtctgcagag gagaaccaat 480
ctatggcatc tgctagtggc gcttgtggtg gcg 513

<210> 304
<211> 370
<212> DNA
<213> Eucalyptus grandis

<400> 304
ggcgattgca tgcttcccat gtgtagcatg gtgtcagatt tttgaactgt taattgcatg 60
tgccgcaatc ttcattccta tcaattgagc acttcaacag gctttttcta gtgggaagaa 120
gtctccaaca aacatgacat aggggatatt ctggaaatag ttatgaaaga ggagaccccg 180

tttctaataa ggaacttcca tgcaggcatg tggatcgtac gaatattctg agcaatacca 240
tgatgaagtt aagccagcat atggacctca gatatcggca cattctcagt atctcgggta 300
caattccttg agattggggt tgcctctcag agtggcggag gaacctgttt atgtgaatgc 360
caagcagtac 370

<210> 305
<211> 503
<212> DNA
<213> Eucalyptus grandis

<400> 305
gcccgatgtc cccctcccct cccccgccgg agacgtgacc gatgccgagt ggttctacgt 60
catgtccttg acccgctctt tctcggcggg agacggtatt cccgggaagg ccctcagcac 120
ggggtccttg gtctggctga ccggtgctcg cgagcttgag tcgtacaagt gcgaccgggc 180
caaggaggcc gagctccatg gcatccgcac catggtttgc atcccgactg gtgatggagt 240
ccttgaattg ggtcttgcg atgtgatccc tgaaaactgg ggccttgttc aacgagccaa 300
gtctcttttc ggctccgatc tgctccttcc caagcacccg ccaccgccac cacctccgtt 360
ccagctccac catgaccata gcgacatttc tttcgctgac attggaataa ttgcgggcgt 420
tcaagagaat gatttcgctc ctcacgatga ccacgagaag aaggtcaaga agaagcagcc 480
gctggtggaa ggagctggcg gga 503

<210> 306
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 306
atgtcgctgg aatgacgcga ggccgtcgtg acggcattct gaagagcgag aagacgcgac 60
atgtcgtcaa gattggcccc atgcatttga agggcgtgtg gatcccttac gagcgggctc 120
tcgagtttgc caaccgggaa aagatcaccg agtatctcta cccgctgttt gtgcatgaca 180
ttggcgcgct gctctatcat ccgagcaacc ccagcggcgc caccagccgt gcgggcaacg 240
cgcagaacac gcttgccgcc atcgatcgtc gcaggaacga ggcgcgcatg gcggcaagca 300
tccaggggca ggcggtgagc ggagtattgg tctctcccgt cgcccagacc gcaggcggcc 360
gacccagcgt cgaccgc 377

<210> 307
<211> 361
<212> DNA
<213> Eucalyptus grandis

<400> 307
aataatctct ctctctatga caatggagtg ggtagtacac cacgccccag gtcaaatgct 60
gaacagttaa ttttccgagc ggcattgcag gatctctctc agccaaaatc agaagaaact 120
ccacctgacg gtgctctggc agtacctctt ttgaggcatc agaaaattgc cttgtcatgg 180
atggtgaaaa aggaaaccgc cataaattgc tgtgggggaa ttcttgcgga tgatcaggga 240
ctagggaaga cagtatcaac tattgctctt atacttaagg aaagacctcc aaccttcaaa 300
caatgtcagg agaatccaaa gcaggagtta caaacttttg atttggatga ggatgaaaat 360
g 361

<210> 308
<211> 357
<212> DNA
<213> Eucalyptus grandis

<400> 308
gccctctacc tctccccctc cctctctccc tctacacctc gctctcgctt catgatctgg 60
gtggacagag ggtgttcccg catagatcca tcactcgctc gtgttacttc ggcgcaaaaa 120

aggctttgtt ttgggacctg ggtttgtgtc gattggtcgt ttttgtgaac tcccgaatag 180
tgatgtcgtt gtcggccaag agcgagtcga ttcaaattcg ggacgtgtgg gatgataacc 240
tcgacgagga attcgcgcga atccgcgaga tcgtcgacga ttatccgtac gtggccatgg 300
acaccgagtt cccgggtatc gtcgtgcgcc ctgtgggcaa cttcaagaac tccagtg 357

<210> 309
<211> 433
<212> DNA
<213> Eucalyptus grandis

<400> 309
ccgcggtctt ctttcttcca aagtaaactc aacttcttcc ttcctcccca ccggcaagaa 60
aagtctcccc gatcctctct cgccattccc ggcctcgccg tccggctgaa ttgtcgacgt 120
tccggctcgc tccggcgccg actggaggcc atggcggatt cggacaacga ctcgggggc 180
cacaacaacg cgaacagcga gtcggcggcg gcgctcgccc gcgagcagga ccggttcctc 240
ccgatcgcga acgtcagccg gatcatgaag aaggcgctcc ccgccaacgc caagatatcc 300
aaggaggcca aggagaccgt gcaggagtgc gtgtcggagt tcataagctt cataacgggg 360
gaggcgtcgg acggcagcag cagcatcggc ggcggcggcg gggcgtcgt gaacagcggc 420
gggggctccg cgg 433

<210> 310
<211> 511
<212> DNA
<213> Eucalyptus grandis

<400> 310
ggaagatcaa tccagatcga tgggagtttg tgaaccaagg ttttcagaaa gggaataagc 60
acttgctgaa gaatataaag aggagatgca aattcagtga gcatagaaaa acatcgagta 120
gtactgtcac ctctgattac cagaaagctg aaaatgaagt ggaactcaac acgcttaaga 180
agggccagga agtgttgaag accagatccc ttaaactaag agaagagcgg aagagctttc 240
agcatgagat tgagcaagtc gcagagcggg ttcgccatgc tgagtgcagg aaccagcaga 300
tattcctctt cctcacaaaa gcagccaaaa gccccaactt tgtccatcat ttaatccaga 360
agaagagcca gaagagagat ttagagactt gtgaatcaag caagaagagc aaattgcttg 420
gttccgatgc tgaagccacc aaattcttga atgaagcaat ggatcacatg attaaaagcc 480
caaacgttga ttgcctgaga atcagtgatg a 511

<210> 311
<211> 799
<212> DNA
<213> Eucalyptus grandis

<400> 311
ggaattcttg cagctgcagc tcatgctgcg gcgaacaaca gccctttcac tatattttac 60
aatccgaggg caagtccttc tgaattcgtg atccccttgg ctaagtacaa taaagcattt 120
tatactcaag tttctcttgg catgagattc agaatgatgt ttgagaccga ggagtcggga 180
gtccgaagat acatgggtac aatcactgga attagtgatt tggattctgt gagatggaaa 240
aactcccagt ggcgcaatct ccaggtgggg tgggacgagt cgacagccgg tgaacgacca 300
agcagagttt caatgtggga aatagagcct gttgtaactc ctttttacat atgtccacct 360
cctttttttc ggcccaagtt tcctaggcaa cctgatgatg agtctgatgt agaaaatgct 420
ttcaagaggg ccatgccttg gcttggagat gagtttggca tcaaggacac gcctaactca 480
atcttccctg gcttgagttt gatgcagtgg atgagcatgc agcagagtaa tccacttcaa 540
gccactcaat ctggacttct acctccaatg ctttcttcca ctggtttaca caataacctt 600
ggcatcgacg acccctccaa attgctaagt ttccaagccc ccacccaagg tcttcaattt 660
aataaaacga atccacaaaa tcaagtcagt caattgctgc aaccgtctat ggcttggtct 720
caacagcacc agcttcagca actgttgcag aatcctctgg gccaccagca gcagcagcag 780
cagcagcagc tgcagcgcc 799

<210> 312
<211> 304
<212> DNA
<213> Eucalyptus grandis

<400> 312
gtaccttcca tgaaaccaga atatccggtt ccaaatggaa ttggagcatc ggactttggg 60
gaatctttca ggttccagaa ggtcttgcaa ggtcaagaaa acttgggttt tggcactcct 120
tacgatggta tcgaaactca aagtcatcgg ctatctgaag tgaggaggca tcatcctgat 180
gattcaggtg gttctgaagc tgctgccacc agaaatggca tcacaaaccc atccgtgaat 240
gctagtgtca cttacaaagg catgggcttt ggcgaatctt tccggtttcg tgaggtcttg 300
caag 304

<210> 313
<211> 427
<212> DNA
<213> Eucalyptus grandis

<400> 313
cccccctctc cccttctgcc tccgccctcg atccccaaaa ccctcctccg aatcgattcc 60
ggcagccccc tccggccacc gccccctccc gccgcaatgg acgcagcgcc gccgggcggc 120
ggcggaggcg gaggcggccc ggcgccgttc ctcctgaaga cctacgagat ggtggacgac 180
gcggggacgg acgagatcgt ggcgtggagc tccggcaaga cgagcttcgt cgtctggaac 240
ccgcccgagt tcgcccgcct cctgctcccc acctatttca agcacaacaa cttctccagc 300
ttcatccggc agctcaacac ctacggattc cgaaaaattg atcctgagcg atgggagttt 360
gctaatgaag aatttgtgaa ggacaaaaaa catcttctca aaaacatcca ccgtagaaag 420
cccatcc 427

<210> 314
<211> 308
<212> DNA
<213> Eucalyptus grandis

<400> 314
ttcaagatgt aaagggaaag gaagtgggtg tttcagttca gattttggcc caataataac 60
agcagaatgt acgtgttgga gggtgtaact ccttgcatac aatctatgca gttacaagct 120
ggagacactg taacttttag ccgcatggac cctgaagcga aacttataat gggtttccgg 180
aaagcatcaa cctctatgat gcaggacagc caactagctg ctgtttctaa cggtaaccat 240
tcaagtgaag ctttgatttc tggtggtttt gaaaatgtac ctatgataag tgggtattcg 300
agtctcct 308

<210> 315
<211> 92
<212> DNA
<213> Eucalyptus grandis

<400> 315
agaactggaa aggctgaatc agagtgtctt tgtccccgta atagtgggct gctggatgcg 60
ttagttcacg agtcgaagac tatgagcagt gc 92

<210> 316
<211> 764
<212> DNA
<213> Eucalyptus grandis

<400> 316
agagagacga ccggacggtg gaaaagagag agagagagag agagagagag agagaagatt 60

gcgatgtagc cggcgacgat cctagaatct gaagctgccg agcctaggcc gtcgattttc 120
ttaagcccgt tcttggtgct gctgttgccg ttgctgttgg tggtggtggt gctgctgctg 180
ctgcagtgat tgcttcttcc agctttttct gtggcggaat agagctgcag ctcgtcgggg 240
gctcgtctgc tcccgctgtt cccttcccct ccccgtctcc tgagtagggt tgcggaagtt 300
ttccggcggt ccgtctgcgc accaccgatc gacgaggagg cgcgctccgt cttcggattc 360
gggacgccgg ggatatggct tctcacgagg tctccgtcgt ggggagcgac cggagggaga 420
gggagaggac gggctgcgag gacgccttgt acaaggagct gtggcacgct tgcgccggtc 480
ctctggtgac ggttcctcgc gaaggggagc tggtttatta cttcccgcag ggcatatcga 540
gcagattgag gcgtcgatga atcaagtcgc cgatcggcag ataccgtttt acaatcttcc 600
ctcaaagatt ctctgccgtg tcattaatgt tcaattgagg gctgaaccag agaccgatga 660
gctgtttgct caagtgactt tgcttccggt gcctaaccaa gatgagactg ctgtggagaa 720
ggaaactggg atcccctgcc tccaacgacc ccgtgtccat tcct 764

<210> 317
<211> 181
<212> DNA
<213> Eucalyptus grandis

<400> 317
acattcatgg ggatatgcag cctccaacat tcatctcagc aggcggagga ggcgctgtcc 60
caggggctag aacagctcca acagtcactc gtcgacacca ttgccggcgg gcccagcatc 120
gaaggaatgc aacagatggc aatcgccttg ggcaaattaa ccaatctcga aggctttgtt 180
c 181

<210> 318
<211> 420
<212> DNA
<213> Eucalyptus grandis

<400> 318
ctattggtta tcccaagatg ccgttacagg cttcaatttc tacacagtcg gacttccaag 60
ctgatggttc tggtcatggt gtgccaatac cacaaggtgc agatagtgga tcattaggca 120
tttcagcctt acccaccata caaagagatt cgggtgtgca tgttaagcaa acaacaagtg 180
agtcatcgag ggaggattca gatgatgaag aatttgaagg tgacacggga accactgaaa 240
acaaagatcc tgctgaagtc agacgcgcca gaaggatgca gtcaaatcgg gagtcagcta 300
ggcgatccag aagaagaaaa caggagcaca tgagtgaact tgaaaaccag gttgagcaca 360
ctggactact gaagcgtctc actgatatga accaaaagta tgatgtagca tcagttgaca 420

<210> 319
<211> 462
<212> DNA
<213> Eucalyptus grandis

<400> 319
cggaaccggt ggcaattgga tcgctcttcc tcgcaaagcc gggcttaagc gctgcggcaa 60
gagttgcagg ctaaggtggc tgaattacct gaggccagac ataaagcatg gaggtttcac 120
tgaggaggag gatcacgtca tctgcactct tttctttacc ataggaagca ggtggtcggt 180
aattgcttcc aaattgccag gaaggacaga taatgatgtg aagaactact ggaacaccaa 240
gctgaagaag aagctaatga agcaactggc ttctctgaaa acagtgcctg aaagtaactt 300
tgactatcag gtctgcgcac agaactcggc ctcaatcgat cctgagacca agaatcggga 360
atatgctgct aattcaatgg gattccccaa gcagaacttc aatccaggaa tacccacttc 420
gaactcgagt cttctctgtc ctccaagtct cactgaagtt tc 462

<210> 320
<211> 445
<212> DNA
<213> Eucalyptus grandis

<400> 320
gcacttcttg cgcagacaat tgcagactct ctctctctct cattcaggcg cctgtcttct 60
caagcatttt gtcaaagaaa ctcctttgtt ttttctctct ttctctctcg accatggccc 120
gaccgcagca gcgatatcgc ggcgtgcgcc agaggcattg gggctcctgg gtctctgaaa 180
ttcgccaccc gttattgaaa acaagaattt ggctagggac gtttgaaacg gccgaggatg 240
cggctcgagc ctatgacgag gcggcaaggc taatgtgcgg gccgagggct cggaccaact 300
tcccttacaa cccaaacatg tctcagtctc ttcgtcgaag ctcctctcgg cgacattgac 360
agcaaagctc cacaggtgct acatggcctc gttgcagatg accaagtctg cattgcaagt 420
gcaagaacca cagaaccacc cagtt 445

<210> 321
<211> 350
<212> DNA
<213> Eucalyptus grandis

<400> 321
cgcgagccgc atcccgcccc tccttccttc cccgttctcg aattcgccga gatctgctgc 60
ggatcgcacc ggcgcgggat tctcgatgga ggcggcggcg gcggcggcga aggtggtggg 120
ggaggcggag gagctcccca agaccatcgt gcggcgcgtt gtgaaggaga agctctcccg 180
gtgctccgac gacggcgacg tctccctcca caaggacgcc ctcctcgcct tctccgagag 240
cgcccgcatc ttcatccact acctctccgc cacagcgaac gacatatgca aagaatcgaa 300
gaggcaaact atcaacgcgg atgacgtgtt gaaggcgctg gaggagatgg 350

<210> 322
<211> 263
<212> DNA
<213> Eucalyptus grandis

<400> 322
tggcgatagc cagttcatga gcaaggccag cttcgtggtg ttgataggtt ggagggtagt 60
cactgggtac caattgggtg ggaaaggatc tcggctctcg cccaaactgt gcaagtagat 120
gctggttggg ggatgcagct agattcaatg gatgacgatg aggacctgac tgttgcagat 180
atggagactc cttactggga gaggcctgca gggccgatat ggtggtgtca tttctcggca 240
ggtcatcctg ctgtggaagc atg 263

<210> 323
<211> 893
<212> DNA
<213> Eucalyptus grandis

<400> 323
gtttttttccc ttttcgatat ctctgcaaat ctgcgactct ctgctctcgg ctccaacccc 60
ctcctcttca ctcttcttca caatccctgt ctcgcgaatt tatggcgcta cccgcacgac 120
agtccgtccc ttcctttgat cactagcaaa tgtacgaccg aggattagca acccaaaagc 180
tgtcgaattc catctgattt ggtgcctctc atggtgtgaa aagcagaact gttctctcgt 240
attcttggca tcagtacaac tggctcaaca tgctgttact cttactcaac taaaacttca 300
gcaccacatt gtcgttggcc ttaaagttac agctcagtaa tgaaaccaac cattgatctg 360
gaagtggagg ccgtctcgga aaatgactct gagattagta gccaagtcgc ctccaatcta 420
tccaatcaag agccctccat gggtccctcc aatgacagcc ttgctaactc ttcctacctc 480
atcagccctt cggctgttgg atcaggttcc gaaactgtgt tcctagactt gagccttggt 540
tgcagcaatg atgagtccag cgggagggat tctgtaggag tcgccttctc gagcaccagc 600
gaatgtagca atgagcccga atctcatccg gcagctgcag gaccaaccac ttcaagagtc 660
ttttcttgca attactgtca aaggaagttt ttcagctcac aggcactcgg tggccatcag 720
aacgcgcaca agagagagag gaccctggca aagcgggcaa tgaggatggg catgttttct 780
tcacagagat attccagctt ggcgtctttg cctttgcacg ggtctcccac tgtcagggat 840
ctggggatca aagcgcattc ttccgtgcac caggtgcacc aaggcatgtt gca 893

<210> 324
<211> 434
<212> DNA
<213> Eucalyptus grandis

<400> 324
atcacttcaa caccatgacc ttacaaaaac aaagcaattg ttagaaccat ggttgctcaa 60
ctgaagaact tcgatgctgc gctacaagaa ttggaggaga agaagaagaa cgaagtcgac 120
cctagctcga gcatcggttc gtggatgtgg aaccctagtg ccgcccagga ggatgatgac 180
tcgtgggagg tgagagcctt cgccgaagac actagcaaca ttatgggcgc aacctggccg 240
ccgaggtcct acacttgctc tttctgtaga agggagttcc ggtccgccca agccctcggc 300
ggccacatga atgtccaccg cagagaccgt gctaagcttc accaatcaca attccggccg 360
ctggcgaacc aaaattctcc tttcgcttct tgctcttccc cgtcctcctc gactctgcta 420
ttcccgaatc aaga 434

<210> 325
<211> 588
<212> DNA
<213> Eucalyptus grandis

<400> 325
cctagctgaa actattactc ccactggttc tctctctctc tctctctctc tctctcaaac 60
atggctgaat tagattattg ccaaaccaaa agcagccccg gcgctgccgc cacgcgctta 120
aagctcttcg gcttcaacgt ctccgatgag gaagactcag ccgtcagcga ccccattact 180
gttggcgcga acggcggcgg cggcggcgga ggcggcaagg ccacgccgtc gggctcgccg 240
gaaggcagcg tcccggtggg gggcggcggc gagcggaagt acgagtgcca gtactgctgc 300
agggaattcg ccaactcgca ggccctgggg ggccaccaga acgcgcacaa gaaggagagg 360
cagcagctca agcgcgccca gctgcacgcc agccggaacg ccgccgtgtc gtcgctcgtc 420
cggaacccca tcatctcggc cttcgctacg ccgccgcacc tgctggccac cgtggggccg 480
gtggtggtga cgggggcggc gcccacctcc ccgtcctggg tttacgttcc gcgtggcgcc 540
ccgcccttcc aagtgtcgca cggctgcgtg ttcacgaccg gccaggga 588

<210> 326
<211> 417
<212> DNA
<213> Eucalyptus grandis

<400> 326
ggaacatcaa tcgaatccat ggcatcagag ctcctcagcc gctaatcaca ggcagctcaa 60
cctagagctc gcacttgagc catgttcacc atcctcgtca tcatcaccag catcactcca 120
tcctcttgca gttcctgcaa aagacaacaa gctttactca tgcaacttct gccaaaagaa 180
gttctatagc tcgcaagcac ttgggggtca ccagaatgct cacaagctcg agcgaaccct 240
agcgaagaag agcagggact tgtgctctgc cgcaaaacct cctgcggcga cctcgaatgg 300
tcaccatgta cggccatctt ttcaatctgt ggtttatgag aatcagccac gcttggccag 360
gcatgttggg gatgatatga ggtatgctgg gactaatccg ctgtatggtt catcttg 417

<210> 327
<211> 448
<212> DNA
<213> Eucalyptus grandis

<400> 327
cagctgtcgt cggtggacag ggaagcgagg gtcctgaggt acagggagaa gaggaagaac 60
cgcaagttcg agaagaccat caggtacgcc tcgcggaagg cctacgccga aacccggccc 120
cggatcaagg gcaggttcgc gaagcgcgcc gacatcgagg cggaggccga gcgcatgttc 180
gggttcgggg tcgtgccctc cttctgatgt catctgaagc gttggaaggt ctctctctct 240

ctctctctca agagagaaat tttgggctct tttccttgct ggttttgtgc tgctgctttt 300
ctcttgcagc gatatcagtc tgttttgtat atacagtagg agactgttgt gtgctccctg 360
gatctctgac cgttgcctga tcttgaatgt tttatggtga attttçatgg aatttgatga 420
tgcaaattga agggaaattt gctgaaaa 448

<210> 328
<211> 673
<212> DNA
<213> Eucalyptus grandis

<400> 328
gagaggtccg tggacggtgg aggaggacct caccctcgtc aattacattg ccaaccacgg 60
cgaaggacgc tggaactccc tcgcccgcag cgcaggtttg aaacggaccg gaaagagttg 120
ccggctgcgg tggctgaatt acctccgccc cgacgttcgg cgcgggaaca taaccctcga 180
agagcagctc ttgatcctcg agctccattc ccgctggggc aatcgatggt cgaagatcgc 240
gcaacacttg ccgggcagga ccgacaacga gatcaagaac tactggcgaa cccgggtgca 300
gaagcacgcg aagcagctca aatgtgacgt caacagcaag cagttcaagg acgccatgaa 360
atacctctgg atgccgaggc tggtcgagag gatccaagcc gcctccgcct ctgtctcgac 420
cgctactgtc gccgccgccg ccatggcagc cccacccaca atggccacca ccgcagcatc 480
caacatcggc ggcatggctt tcccgccggc cctggcgggc atgggcggcg acttcagggg 540
cgggcgagtg aatgtggcgc ccagctacag caccccggag aactcctgca cgacggcgtc 600
ttccgactca ttcggtgcgc aggtctcacc cgtctcggac cttaccgacc ttgaccgagt 660
acttacccta tcc 673

<210> 329
<211> 1008
<212> DNA
<213> Eucalyptus grandis

<400> 329
gttccaagtt cactcccttc ctcaagctac gattccagct ctccggaagg aggaagaacg 60
tcgcgaaatt caccggaatc tctccgaccc atcaacgctc gggaaggaaa ggcgcgacct 120
ttgatccgcc tttttttgt accgtccgat gagtctctgg gcggactacg accacgccgc 180
cgcgaccgac ctctccgcct tctggccgcc gccggccacc ccccctccgc cggcgccggc 240
gccgccgctc agtcaggagt cgctgcagcg gcggctccag gccctgatcg aggggctcg 300
cgggagggac ggggaagaag gggccggggg gcccgccgcg gcgtggacct acaccatctt 360
ctggcagtcc tccggcgact actccggccc cgtcctcggg tgggggatg ggtattacaa 420
gggcgacggc agagccagga gcaggggctc cgcttgctct caggccgagc aggagcaccg 480
gaagaaggtc ctccgcgagc tcaattcgct gatttccggg gccccgcccg ccgacgacgc 540
ggtcgaggag gaagtgaccg acaccgagtg gttcttcctg gtctccatga cccagtcgtt 600
cgccggcggc gtcgggttgc ccggtcgggc ctacttcagc tcgaatcccg cgtgggtcac 660
gggggccgag aggttgggga attgcgggtg cgatagggcc cggcaggcgc agatcttcgg 720
gttgcagacc atcgcgtgcg tccctgtttt gaacggtgtg gtcgaactgg gttccaccga 780
gccgatctac cagagctccg atctgattag cggaattagg gggctgttca atttccatga 840
atcggagatg ggatgcggtg gtagggtttt gaatagcgag catgacccgg cgtcgctttg 900
gatctgcgat ccgccagtca cgatggagat taacgatcgt cctatgacat ttcagataga 960
gaaccccagc tcgagcagtc ttaccgaaag ccccagcgcg atctgcgc 1008

<210> 330
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 330
caaaccccac cctgataagt tcccagcaac atagagacac tcacagaaac actcgcaaaa 60
aacctctttg ctgtcttcca tggttccgcc attcccgact gcagaactgc ctctcaacga 120
gaatgattcg caagacatgg tcatctacca tgtactgaac gaggccatgt cccagaacaa 180

ctcctccctc ccgcatccga accaatctgg gtccccatcg agcggcggtt ccctcgagcc 240
gtccaggggc atcacgaaga agcactacag aggagtccgg cggcgcccgt gggggaagtt 300
cgcggtgaga ttcgcgactc gttacgccac ggggcccgag tttggctcgg gacattcgag 360
acagccgagg aggcggcgct ggct 384

<210> 331
<211> 420
<212> DNA
<213> Eucalyptus grandis

<400> 331
ctattggtta tcccaagatg ccgttacagg cttcaatttc tacacagtcg gacttccaag 60
ctgatggttc tggtcatggt gtgccaatac cacaaggtgc agatagtgga tcattaggca 120
tttcagcctt acccaccata caaagagatt cgggtgtgca tgttaagcaa acaacaagtg 180
agtcatcgag ggaggattca gatgatgaag aatttgaagg tgacacggga accactgaaa 240
acaaagatcc tgctgaagtc agacgcgcca gaaggatgca gtcaaatcgg gagtcagcta 300
ggcgatccag aagaagaaaa caggagcaca tgagtgaact tgaaaaccag gttgagcaca 360
ctggactact gaagcgtctc actgatatga accaaaagta tgatgtagca tcagttgaca 420

<210> 332
<211> 1439
<212> DNA
<213> Pinus radiata

<400> 332
gcaacctgaa gcgttttagg cggtgaggtg gaagaagggg gacaagggag aacctgaaga 60
tttgtttgaa ttaagctgtc atcgggcagg gcaagcaggt cttcatatct ctgcaatata 120
tatctatatg cggcagacct tgtttaggca atctattgtt tcgggtataa gtagggaagt 180
ttccccattc tgtaggattc ttaaacgcat ttctagggcc acggaatgcg tcaaattgca 240
catacccacg cctcctttct cataacaggt ttacgcgcga tttcttccct tctagaaggc 300
ctcttcctcc tttactaaat cgggtgttgt ttcatcagtt ttctccacaa aatccctgaa 360
gttctcttaa ttttttcgag ggtcggtttt ttatagtgtt atctacggtt aatatcagcg 420
aagggccttt agatccgaag gtataatggg gcagcaatct ctgatataca gttttgttgc 480
gaggggcacc gtggtgcttg cggagtacac ggaattcaaa ggcaatttta caggtattgc 540
cgctcagtgt ctgcaaaagc ttcccgccag caacaacaag ttcacataca attgcgataa 600
tcataccttc aactaccttg ttgaagatgg cttcgcatat tgtgttgttg cagatgaatc 660
cgttggaagg caagtaccaa tggcatttct ggagcgtgtt aaggaggatt ttaagaggag 720
atatggtggt ggaagagctg acacagctgt tgctaacagc ttgaacagag attttgggtc 780
aaaattgaaa gagcacatgc agtattgcat tgaccaccct gaagagatca gcaaacttgc 840
aaaagtcaag gcccaggttt ctgaagtgaa aggtgtcatg atggacaaca ttgaaaaggt 900
tcttgaccgt ggtgagaaga ttgaacttct ggttgataaa acagaaaacc ttcgttttca 960
ggctcaagac ttccaaaaga agggaaccga gttgcgcaga aagatgtggt ttcagaacat 1020
gaaagtgaaa ttgattgtcc ttggaattgt ggtggccttg attctcataa ttgtcctttc 1080
agtatgccat ggattcaatt gttcgaaaaa atgatctgga atagatagag gtccatttga 1140
attggaacaa cttttgattg gctatggatg gcattcttgt tctcctttgt atttctctct 1200
atattatcag tttcgggtga gatagttcta tgatgtttgc cagagggtat tttgcttgga 1260
caatcactgg ttgatagtac atattgacta gtatgacaac gaaatgttct gaatattcag 1320
tggggcagag actctgattg cgtacagcaa ctttagtgta ttatatcaag gtcatgcatt 1380
tgttattgtt cttatcttta atgaagtatt gttttacatc ttagaaaaaa aaaaaaaaa 1439

<210> 333
<211> 407
<212> DNA
<213> Pinus radiata

<400> 333
atttaactgg gattgcaagc tgcttgtgtt gtttctgtgc ttcaagcgaa gggaaggaa 60

gacattccta gagaagaaaa aaatcaatat caatggggag ggggaagatt gaaataaaaa 120
tgattgaaaa tacagcaaac aggcaagtca cattctctaa gagaaaagga ggacttctta 180
agaaagctca cgagctctcc gttttatgca atgcagaaat tgctctcatc gtttttttcca 240
acactggcaa actccatgat tggtcaagct ccagcatgaa aaaagttatg gagaagtacc 300
agaaatcgga tcaaggacta ggacttatgg actaccaaca acaacagctg ttgtgtgaaa 360
tgaaacgaat caccaaagaa aatgaaagcc ttcgagctcg tttaagg 407

<210> 334
<211> 307
<212> DNA
<213> Pinus radiata

<400> 334
gtaccgtctc cactggtgcc tacccgagaa aattacttcg tgagatattg taaacaacat 60
tcagatggaa tatgggcggt ggtggacgtc tctcttgaca cgttgcgtgg gaacccgcaa 120
ccccatccca actgccctcc ttcgacttta agatgccgaa gacgaccgtc cggttgcctt 180
atccaggaga tgcccaatgg ctattccaag gttacgtggg ttgaacatgt tgaagtggac 240
gagagggctg tgcaccgtat ttatgataag ttggtaagca ccgtttcgcg ccgaacgcca 300
taccgct 307

<210> 335
<211> 530
<212> DNA
<213> Pinus radiata

<400> 335
ctttccaata ttgagcccaa gcaaatcaaa gtttggtttc agaatcgaag gtgccgagag 60
aagcagagga aggaagcctc gaggcttcag actgttaaca ggaagctgac ggcaatgaac 120
aagttgctca tggaggagaa cgatcgcctt cagaagcaag tttcacagtt ggtgtatgag 180
aatggttaca tgagacagca gctacagaat gcatctgtgg ccgccacaga cacaagctgt 240
gagtctgtgg tgactagtgg tcagcaccaa cataatccaa cacctcagca tcccccaaga 300
gatgctagcc ccgctggact cctgtctata gcagaggaga ccttgacaga gttcctttca 360
aaggctaaag gagctgctgt cgattgggtc cagatgcctg ggatgaagcc tggtccggat 420
tcgattggta ttgtagctat ttcaaatact tgtaatggag tagctgcacg tgcttgcggt 480
cttgtaggat tagatcctac aaaggttgca gagatcctta aagatcgccc 530

<210> 336
<211> 402
<212> DNA
<213> Pinus radiata

<400> 336
cattcttcca gagggaccac ctgagagccg atcagtaatt gacaatcgac aggtcgaagg 60
atcgatcctg accattgcat ttcagatact tgttaacgat ctcccatcgg caaagctgac 120
gctggagtct gttgagactg tcaacaatct catttcatgc actgcacaga gaatcaaagc 180
tgctctacat aaagtcgagg atgtttgatg ttcagagatc ggtcgcaagc taacttaaat 240
atgtcttcaa ttattttttt ttaccaaaac aataaatatt atttatgagt gttgaacaac 300
accattctcg agttttggga ttgtatatta tcagtttgaa agtgtgagtg caatttgata 360
accgactata gggatggaag gaaaactgca tcgaaatcca ca 402

<210> 337
<211> 356
<212> DNA
<213> Pinus radiata

<400> 337
atttttctg tagatggtgt gaggacgtgc tgaatagttc ctaaatcgtt tcttccgcgt 60

ttggtcatcg aacgagttcc tataactcgc caagaccagg ttcttcacgg actactaatt 120
ttgggcttct acacatcttt cccggaagta gatggggcgg gcactaggaa gaacagaaat 180
aaagaggata gaaaatgaag tgagcaggaa tgtgagtttt agaaagagac gacgtggatt 240
gctgaagaag gctgcggagt tgtcaatact ttgcgatgca acagtgggcg ttgttgtttt 300
ctctccggcc gggaaacttt ctgaatatgc cagcacttcg gagtcaaatg gatacg 356

<210> 338
<211> 380
<212> DNA
<213> Pinus radiata

<400> 338
attcgaaacc ctaccaatcg gcactcatcc ttctacaaac gcaagggcgg tttgcttaaa 60
aaagcatttg aacttgctgt tctctgtgat gctgaagttg ctctgataat cttctctgaa 120
accggcagga tttacgagtt tgcaagccac gatgatgtga ccacagtatt ggcaaaatac 180
cgaatacaaa cgaaaactgc cggaaacgca atgccttcat cgcttcaaaa aacagagttt 240
gatcaattac aagtcaggat gttgcaggag aagatagaca atttggagaa aacgaaaaag 300
catatggtcg gtgagaattt ggagtcactg acgtggaagg aattgcaaca agtcgaaaag 360
aaattaagca aggctacaaa 380

<210> 339
<211> 299
<212> DNA
<213> Pinus radiata

<400> 339
cctacttgga aaggcaaatc cttgtaactg ttccatcctg cacgaattgg aggttttgga 60
ggtggccagg tcatcctccc attagcccat actgtggaac atgaagagtt tttggaggtt 120
atcaagttgg agaatcatgg cctgacacag gaagaagctt tgctatcgag ggatatgttt 180
ctgttgcagc tttgtagtgg gctcgatgaa aatgcagttg gggcctgtgc tgaacttgtc 240
tttgctccaa ttgatgcatc cttagctgac agttctcctt tgctcccttc tggtttcag 299

<210> 340
<211> 584
<212> DNA
<213> Pinus radiata

<400> 340
tcgcagcgta aagcgttcat gggtgccggg cgggtaactc ttgaaaaata ttagattcga 60
ctccctgacc ctgggaggag gaagaagaag aagaacagca ggaggaagcg aaaatttctt 120
aatagtaacc agagaatagc agcgggtgaa gaagcagagg gatcttgcaa tggggcgggg 180
tcgggttcag ctgaggcgaa tagaaaacaa aataaatcga caagtcacgt tttcgaagcg 240
ccggaacgga ctgctgaaga aggcgtacga gctatcagtg ctgtgcgatg ccgaagtggc 300
gctaataatt ttctctacca gaggaaagct ttacgagttt gccagttcca gcatgaacaa 360
gacgttggaa agatacgaaa aatgttcata tgcaatgcaa gataccacag gcgtttcgga 420
ccgggaagca cagaattggc accaagaagt tacaaagttg aagggtaagg ttgagctcct 480
gcagcgatca caaaggcatt tgttggggga agatctgggt ccgttaaatg ttaaggagct 540
acagcagctt gaacgtcagc tggaggttgc tctgacacat ctta 584

<210> 341
<211> 592
<212> DNA
<213> Pinus radiata

<400> 341
ttgggttcgg ggtcctgtcc tgactggaat ttttgtttca ctcgttctgc cccgtctgga 60
ttgggctgca ctgaaataca ttgaacattg gagttgtcga gcgcgagata tgggtcagca 120

gtccctcatt tacagctttg ttgcaagggg cacggtggtc ttggccgagt acacccaatt 180
cacgggcaat ttcacaacaa ttgccaatca atgccttcag aagattcctg ccagcaataa 240
taagttcacc tacaattgcg atcgtcacac attcaattat ctcgtcgaag atggttacac 300
atactgtgtt gttgcagatg aatcagttgg aagacaacta ccaattgcct ttctggagcg 360
cattaaggat gacttcaaga aacgatatgg tggtggaaaa gctgacacag ctgttgctca 420
cagcctcaac aaagactttg gaccaaaatt gaaagatcat atgcagtatt gtgttgatca 480
cccagaagag attaacaaac ttgcaaaagt gaaggctcag gtttctgaag ttaaaggcgt 540
aatgatggag aatattgaga aggtccttga tcggggtgaa aagatagaac tt 592

<210> 342
<211> 163
<212> DNA
<213> Pinus radiata

<400> 342
gtttcctact ggaaatggtg gaacaatcga gcttttatac atgcatacat atgcggccac 60
tactttagct tctgctagag acttctggac tctgagatac acaacagtgt tggaatatgg 120
tagtcttgtg gtttgtgaaa ggtccttgag tgggactcag ggt 163

<210> 343
<211> 372
<212> DNA
<213> Pinus radiata

<400> 343
gaggagggag gcctgctgcc ctcagccgtc cttaatggcg agagctcctc accaccacca 60
gcaacagcaa caccaccagc accaccaaca agaagccagc aggatggtga cttccttgga 120
ggtcgatatc gatactgctt gttccagtaa acctaacgat tccattgatg cgctgaaatc 180
aaaaattgct tgccatcctc actatcctca gctgttggca gcttacatgg attgccagaa 240
ggttggggct cctccagaag ttgtcacagt actggatgag attattcaag agaatcagct 300
tggacgccat tcgggaacta tggatatagg agtggatccg gagcttgatc aattcatgga 360
ggcctactgc ca 372

<210> 344
<211> 418
<212> DNA
<213> Pinus radiata

<400> 344
gtagattcct tgtctatcaa gagggtgcac aaggtttgtt tttaagaaca cagacaggca 60
gacagacaga gacgtgatca tggggcgagg gaagattgaa ataaagaaaa tagatgatgt 120
aacgagcaga caggtaactt tctcaaagcg caagatgggg atattcaaga aagcccacga 180
gctgtctgtt ttatgcgatg cagaggtggc tgttctcatc ttttcaaaca ccggaaggct 240
ctacgactat gctagttcaa ggtgtatgga acgaactatt gagagatatg aaaaatgtac 300
caaagcaatt aattgcccaa catcagatcc cattgtcgag aataagagcc caattcagga 360
aggcattgaa atattgaggc agaaacttcg tgcattacaa agattgcaaa gaaatctg 418

<210> 345
<211> 657
<212> DNA
<213> Pinus radiata

<400> 345
ggtacaagaa gtggctcata ttgcaaatgg gtcgcacccg ggaaattgta tttctcttct 60
tcgcgtaaat gcatgtagta caagccaaaa cgtagagcta atactgcagg agagttgcac 120
agatgcatct gggtctgtta tagtgtacgc ccccgtggac gtcccagcaa tcaatattgc 180
tatgagcggg gaggatcctt catacatagc ccttctcccc tctggatttg ccattcttcc 240

agacggtcaa aatagatctt ctactagttc actcctcgaa ggggcgaaca gcagcagcaa 300
cagtagcaac agcagtggat tggatagccc gctcacaaga ggaggttcat tactcactgt 360
ggcctttcag gtgcttgtca gccatttacc aacagccaag ctgggtttag attctgttac 420
aaccatcaat aatctcatat gcaatacagt gcagcagata aaatctgcat tgcactgtgc 480
agatgtctga atcgcagtgt aattatcgga gtacgggtgg agggggcggc atgcagagaa 540
acaacataaa aaacgttcta tccggtactt gcacccccaa gggtagtaga ataaaaaatg 600
atatgcatat atatgtttgg tggttgcttt ctgtagtttt atctgctgca gttaagt 657

<210> 346
<211> 377
<212> DNA
<213> Pinus radiata

<400> 346
aaccggagag caagaacaaa gtggaaacgc aacgaagtgg agtgcgataa tctgaaacgg 60
tgttgcgaga gtctgaggga ggagaacaga agattggaga aagaagtgca gtcgctgaga 120
gccatgaaag tcccgcagtc acccaattcg atgcctctgg cagccgccac cctcgcaatg 180
tgtccggcct gcgagggcct tgcaatcaag aaccgcggcg ccgccacttc ctccaccgcg 240
aagtcacaac aatccctcct tacaattatg gggattgggg atgtaaatat gatatccaaa 300
aataaccaaa ccccttcaat gggaatggga gatgaaatga attgaagaaa gtgaacttaa 360
aaaaaaaaaa aaaaaaa 377

<210> 347
<211> 558
<212> DNA
<213> Pinus radiata

<400> 347
gaaagaagga aagaatgggg cgagggcgcg tcgagctgaa gcggatcgag aataagatta 60
accgtcaggt cacgttttcg aaacgccgga atggtctgct gaaaaaggcg tatgaacttt 120
cagtgttatg tgatgcagag gtagcacttg ataatattct caagcagagg aaaactctat 180
gagttcggaa gcgccgggat gctcaagact ctggagcgat atcaaaaatg ttcatacgta 240
ttgcaagacg cgactgtatc ggaccgggag gcgcagaatt ggcatcaaga ggttggcaaa 300
ttaaaagcca aagttgaact tttacaacga tcacaaaggc acttattagg tgaagacctg 360
ggccccttga gtattaagga gctgcaacaa ctggaacgtc aacttgaggt tgcactgaca 420
catgttaggt caagaaagac tcaagtcatg ttggaaatga tggatgaact acgcagaaag 480
gagcgaattt tacaagaagt aaacaaatct ctgcgcaaga agttgcagga ggccgaggga 540
caggcattca atgccatg 558

<210> 348
<211> 331
<212> DNA
<213> Pinus radiata

<400> 348
ctcagataca gctaatagca gtgagcttct gggcagcagc agatcagatg gagatcaccc 60
acatcatggc caccatgatc agcagcagca gcagcaggag aatcatatgg tgtggcagaa 120
ttcaaggctc aaggcagatg ttctccaaca tccactgtat gaccagttgt tggctgctca 180
tgttgcctgc ttgaggattg caactcctgt ggatcagctt ccaaaaatag atgctcagtt 240
ggctcagcag caccatgttg tggccaagta ctcagtccta ggaaggaacc agctcttgac 300
tggagaggag aaggaggagc ttgacaggtt c 331

<210> 349
<211> 260
<212> DNA
<213> Pinus radiata

<400> 349
acgaaattac cttggggagt atactggaga gttgatttca catcgggaag ctgataagcg 60
aggaaagatt tatgatcgag aagactcctc cttccttttc aacttgaacg atcagtatgt 120
tcttgatgca taccggaagg gggataagtt gaaatttgca aatcattcac caactccaaa 180
ttgctatgca aaggtgatta tggttgctgg tgatcataga gtgggtattt ttgcaaagga 240
acgcattgca gccggtgagg 260

<210> 350
<211> 479
<212> DNA
<213> Pinus radiata

<400> 350
aaaatttaac agaaacattg caagctgctt gtttaatttc tgtgcttcaa gggaaaggag 60
aggaagagat tcccagagga gaagatcaag ataaatgggg agggggaaga ttgaaataaa 120
aatgattgag aacgcaacaa acaggcaagt caccttctct aagagaagag ggggacttaa 180
aaagaaagct caggagctct ccgtcttatg caatgcagaa gttgctctca tcattttttc 240
cagcaccggc aaactccatg agtggtcaag ctcgagctca ttctttatgt tacaaaaaag 300
catgaagaaa attctcgaga gataccagaa atcagagcag ggactaggac tcatggatta 360
tcaacatcaa cagctgttgt gtgaaatgag acgaatcacc aaagaaaatg aaagccttca 420
agagcgttta aggcatatga atggcgagga agtcaattca ttgaagctcc cagagcttt 479

<210> 351
<211> 260
<212> DNA
<213> Pinus radiata

<400> 351
gctatttgca gcatttcctt ccatccgtac ccaaaagatg ctgacaaaca tttactagca 60
agacagactg gactgaccag aagccaggtt tcaaattggt ttataaatgc acgtgtccgc 120
ctttggaaac ccatggtgga agaaatgtat atggaggaac ttagagaggc cgaaacacag 180
aatcatgcag cagattcgaa ggtaacaaca gaaagtggtc aaaacaatga agaaacggtg 240
tcaaaggaag gagctgggaa 260

<210> 352
<211> 176
<212> DNA
<213> Pinus radiata

<400> 352
agggggctgg ttacagctct gtgagcggaa tagatgaaca tgcagctgga ttctgttctc 60
aacttgtgtt tgcaccaatt gatgcatctt ttgctgatga tgctcctctg gctgccctct 120
ggtttccgag taattcctct agaatctgga tcagaatgtt tctcctccaa aacgga 176

<210> 353
<211> 338
<212> DNA
<213> Pinus radiata

<400> 353
ggacggagga ggacgaggag ctggtcattt cgtcatggaa cagtttatac ctgagcaggc 60
cgtcatctct gattcgtcca tatcttcggt gaaaacagaa gtttgcagcg gtagtggagg 120
ccaatttgag ctgatccgca ggaaagaaga ggggagatgc ggccgtgcct atgctgagcc 180
ttcatttgtt gtcactcctc tagttacttc attacctcca cagcagcagg aaggccggat 240
ggtaacatcc ctggcagtgg atatggacag ctcatgttct tgtaaaccaa atgaagctga 300
tgccatgaga gcaaaattat ttgcgcatgt acactatc 338

<210> 354
<211> 405
<212> DNA
<213> Pinus radiata

<400> 354
gggcaagggg aaagacacag atgagaaaga tcgagagcgc gaccagcagg caggttacgt 60
tttctaagcg cagaaatgga ttgatgaaga aagcttacga gctgtcggtg ctctgcgatg 120
cccaactggg actgattgtt ttctccccca gagggaaggt ctatgaattc tccagtacct 180
gcatgcagaa aatgttggca cgatacgaaa aatgttcaga aggaagtgac acgagtacat 240
caaaagagca agatgtccag tgtttaaaac gagaaagtgc gaatatggaa gaaaggattg 300
aaattcttga atccatgcaa agaaagatgt tgggcgagga gctggcatca tgtgcattga 360
aggatttgaa tcagttggag agccaggttg aacgaggttt gagaa 405

<210> 355
<211> 332
<212> DNA
<213> Pinus radiata

<400> 355
tctctctggt gtggggagca ctcaaaatgg ggaagacgaa gatggagatt aaacgcattc 60
aaaaccctag ccgccgccag gttactttct cgaaacgcaa gaacggattg ctaaaaaagg 120
cattcgagct ttctgttctc tgcgatgctg aagtcgccct gatcattttc tcggaaactg 180
gcaagatctg cgagtttgca agccacgacg acatggcaac aatactggaa aaatatcgaa 240
tatacacgga aacacatgga aacatggagt cctcgtcggt ccaaagcgtg aagattggtg 300
aatcacaact caaagcgttg cgtgagaaga tg 332

<210> 356
<211> 405
<212> DNA
<213> Pinus radiata

<400> 356
aaactcccca aggaagcaag gcaaaagttg ttggattggt ggaccagaaa ctataagtgg 60
ccatatcctt cggaaagtca aaagatagca ttggcagaat ctaccgggct ggatcagaag 120
caaataaata actggtttat aaatcagcgc aagcgacatt ggaaaccatc tgaagagatg 180
cagttcgtgg ttatggatag tcctaatcct cacaacgctg ctttttttcct ggagggacat 240
ctcaggacag atggaactgc cttttcaatg gattgttgaa gttaaaccca tttttgaggc 300
aaacaccagt tttagtgcaa tgctgtagat ttgtctgact catcttttat atgtatagct 360
ggatctctaa aatgggccat gtttcataac gtgctagata tgagt 405

<210> 357
<211> 468
<212> DNA
<213> Pinus radiata

<400> 357
acttttcatg cgtttcgaag gccgccatga ttctggcaga gcacagcgaa ggcgatgcag 60
agctggagga agtagcaggg gaatgtttag agagggttcc gcctttacac agccgattca 120
cgcataccac aaaaagaaaa atgtacagtt ttctaatgga cggcccattt gtttactgtg 180
ccatagtgga tgaagcgctc gggaaaccgc aggtctttgt atttctcgag catgtcagag 240
atgagttcaa gaaattgttg aagaacagag gttgtgaagg gctcagttcg tgctgttttg 300
ataaagaatt cggtcctgtt tacaagcgcc ttgtggctcc tcttgtgggt gttcctcaaa 360
tagaaaagga tcgcttgatg gaggaagaat cgaaatccca acctgctaaa acacatccag 420
tccaggtaaa taattctccc aaagattctc tacctgtgta tgataata 468

<210> 358

<211> 499
<212> DNA
<213> Pinus radiata

<400> 358
aagatgggag cttggtgatc tgtgaaagat ctctctctgc ggctcaaggt atgcctatgg 60
tatcacagtc tcaaagcttt gtgcatggtg aactcttatc tagtgggtat ttgatccgac 120
cctgtgaagg cagaggagca ttagtcatca tggttgatca caggaactta gaggcttcaa 180
gtgtccctga agcacttcgt cccttatatg agtcatctac attctttgca cagaagatga 240
cagttgaggc ttcttatcat cttcaaggta aagttcaacc ggaaatgatt tccttatcaa 300
aaaaactcca acagccatgt aatgtacggt catacagtca acggctttgc agaggcttta 360
atgaggcagt caacacatta cctgatgatg gctggatgtc attgtccaaa gatgggctgg 420
gggatgtcac tatttgtgaa agctttgtca aattgccgga accaaatgca tcgcaaatag 480
cctatgtcaa cagcatggg 499

<210> 359
<211> 462
<212> DNA
<213> Pinus radiata

<400> 359
acgggctctc caacaattag gcatgattca gcagcatgct tggaggccac agagaggact 60
tcccgagcga tctgtttctg tcttacgggc ttggctattt gaacattttc ttcatccgta 120
tccaaaagat gcagacaaac atatgctcgc gagacagact gggcttacca gaaatcaggt 180
ctcaaattgg tttataaatg cacgtgtacg cctctggaag cctatggtgg aagagatgta 240
tgtggaggaa acaaaggagg cagaagtaga ccatggatca aatgataaaa caggtaagga 300
gagtggcgag aaaaaagaag atgcattgtc aaaggaagga gctgcaggca ataatgggaa 360
tatacatgag cagcaaagtg ggaaaatctc aaaactcgac aatattgcac aggatggagg 420
tgctgatgaa aaacctgctg gtgtgcccaa atctgaaaat gc 462

<210> 360
<211> 357
<212> DNA
<213> Pinus radiata

<400> 360
ggagtgttga aattcccctg ttttgatctg ataactatga atctgatgga gtcttttgag 60
gcaaagggaa agggagagaa gaggagaacg gtgaggggga aaacccagtt gaagagaatt 120
gagaacggga ccagcaggca ggttactttt tgtaagcgca ggaatggtct gctgaagaaa 180
gcgtacgagc tgtcagtgct ttgtgatgcc gaagtggcac ttattgtttt ctccccaaga 240
gggaagctgt atgagttcgc taatcccagc atgcagaaaa tgttggaacg atacgaaaaa 300
tgttcagaag gaagtaaccc gacgagtaca gcaaaagagc aagacgtcca gtgttta 357

<210> 361
<211> 749
<212> DNA
<213> Pinus radiata

<400> 361
gagcttcatc cgccattatt gggtttcaat tcgatcttga tttgccagag acgatgtgaa 60
ttaccattct gtgggcaaaa gcgagagagg aggagaatgg tgaggggaaa gacccagatg 120
aaaaggatcg agaacgacac gagcaggcag gttacgtttt ctaagcgcag gaatgggtta 180
ctgaagaaag cttatgagct ctctgtgctc tgcgatgccg aagtgggact tataattttc 240
tcaccaagag ggaaactata tgaattcgcc agtcccagca tggaggagat tttggaaaag 300
tataaaaaac gttcgaagga aaatggcatg gctcagacaa cgaaagagca agatactcag 360
tattccaaac attccaaaca aaagctcgca aatatggaag aacagattag gattcttgaa 420
tcaacccaaa gaaagatgtt gggggaaggg ttggaatcgt gttcaatggc agaattaaat 480

aagttagaga gccaagctga acgaggattg agccatatac gggctcgaaa gacggaaata 540
ttggttgacc aaatagaatg tcttaaaagg aaggaacgtc tcttaagcga ggagaacgcc 600
ttactcagta gaaagtgggt tgatcgtcaa tccgtggacg gttccggttc aacatcatct 660
tcaattggat tgggaagcat cgagcagatc gaagttgaga cacaactggt tataagaccg 720
ccaaatgcac aggatcactg ttctgtaaa 749

<210> 362
<211> 670
<212> DNA
<213> Pinus radiata

<400> 362
gtttgcttgc cgtgaaagaa atcgaacttc cggcgcttgg gtgcgagaaa tatttgcaaa 60
tcgaacttcc ggcttgggtg caagaagctt ttgcgttttc ggtttcagat taaagcaata 120
tggagtcaga ggaagacaaa atatctccag agaacaagaa aaggagatta aaaccccac 180
agcaggtcga aggtctagag agcttttatg ctgaacataa gtatccttcg gaagctatga 240
aatcacagtt atcagaagaa ctgggattaa cagagaagca ggtacaagga tggttctgtc 300
acaggaggct taaggataaa aggctcatga aggaagaagc ttccaacaat ggaaaacaag 360
atccacacaa tggcataatg caagattctg ttaatggagt caaacaagat tctagcggca 420
gtggaaaaaa atctgatcac caacgccatt cgaggtgcaa agaggttgaa agtcaacgat 480
ttgcgaatgc catggattat cctgcagctg tccttgcgtc agagcttagg gatcatgatt 540
tgttcaaagt aaaccatgat aacgaagaca cctttgcagg aagtagttca gcttcacaag 600
acagatcgtc attacaaagt gggaatcctt atgaagctga ggcaagaaga cgcccatttc 660
agaatggtaa 670

<210> 363
<211> 651
<212> DNA
<213> Pinus radiata

<400> 363
tagacctaat tctgaggtca atgaatctct gctgaaaaca ctttggcacc actctgatgc 60
catcatgtgt tgctccttga aggtaaacat gtacaatatc atagactttc ttctggagat 120
taatttcaag tttgcacaat tcttacgtta ggctttgttt ggtgctgtgc agtcattgcc 180
tgttttcacc tttgcgaatc aggcaggcct tgatatgtta gaaacaaccc tggttgcctt 240
gcaagatata tcattagaaa agatacttga cgacaatggc cgcaaaagct tttgctcaga 300
tattgctcaa attatgcaac agggatacgc ctatctacct gctggagtgt gtgtttccag 360
catgggcagg cctgcttcct atgacagggc tattgcttgg aaggtcctca atgatgagga 420
aaatccccat tgcatagcat tcatgtttat gaattggtcc tttgtttgac cattattttt 480
cattgtacaa attataccga gtccttgaag ttaacttatt gaacaaaatc tctttctggt 540
caagccttgt gtgactggcc aaagaaaaaa tacagaggga gagcatgtaa gcagcatatt 600
tggttgctac atttttgctt ttaatttgaa aaatgaattc tgttggacaa g 651

<210> 364
<211> 257
<212> DNA
<213> Pinus radiata

<400> 364
ccaaagaatt tggcacgagc ccgccagcaa caacaagttc acatacaatt gcgataatca 60
taccttcaac taccttgttg aagatggctt cgcatattgt gttgttgcag atgaatccgt 120
tggaaggcaa gtaccaatgg catttctgga gcgtgttaag gaggatttta agaggagata 180
tggtggtgga agagctgaca cagctgttgc taacagcttg aacagagatt ttgggtcaaa 240
attgaaagag cacatgc 257

<210> 365
<211> 357

<212> DNA
<213> Pinus radiata

<400> 365
gtgaattcca accaaagtaa tatgcttata cttcaggaga gctgcacaga tgcatctggg 60
tcgttcgtaa tttatgctcc agtggatata gttgccatga atgttgtgct cagtggaggt 120
gatccagatt atgtggctct tctgccatct gggtttgcaa ttttaccaga tgggccaaag 180
tgcatggcag tcaccaattc aggcattaac gacctaggca gtggaggatc tttactcact 240
gtggcttttc aaattttggt tgactctgtg ccaacggcta aattatccct ggggtctgtt 300
gcaacagtga atagtctcat ttcatgcact gtggacagga ttaaagctgc tgttact 357

<210> 366
<211> 309
<212> DNA
<213> Pinus radiata

<400> 366
attcactggt attttagcag cttttgtttc atctaaggtc acagagcatc agccccctgg 60
tcacatgcct tcggtcacac agggctccgc catggccaac cccaatttcg tggctttgca 120
taataatcag ggtcatgacg gaggagcaaa tggagaccct gcgcaggcaa atttgcgttt 180
attcaacaat tggcagtcag ttggtagaaa tgcacagagc catgtcacag cagcaggcct 240
tcttcagtgg ccgactctgc ttatgggaca acacatgctt tatgatctag ctcaaggaaa 300
tccagggtt 309

<210> 367
<211> 575
<212> DNA
<213> Pinus radiata

<400> 367
ggaaggaaag aatggggcga gggcgcgtcg agctgaagcg gatcgagaat aagattaacc 60
gtcaggtcac gttttcgaaa cgccggaatg gtctgctgaa aaaggcgtat gaactttcag 120
tgttatgtga tgcagaggta gcactgataa tattctcaag cagaggaaaa ctctatgagt 180
tcggaagcgc cgggtatggt attgaaatct ctggactttt ttctgggatt ttgtattata 240
atattagagt tggagaaggc tgtgagggag agaagagagg ttgtaaagtt tattccgtga 300
tttgttttaa aggaaaatct taaattagct aaaacttttg tgcacgttca aaaggccttt 360
aaatttctc tccagttgag agtattttga gaaaataagc cgaatgcgcc cgggagccac 420
acaattgtag caagcttcag tttattttca aagcatttct ccgaataagc tagaaatgct 480
aagaattttg tgaatcgcta aagcatttgt aacatatagc gcagatatca aaaaaataaa 540
gaatttatcg gtaaaaaaaa aaaaaaaaaa aaaaa 575

<210> 368
<211> 243
<212> DNA
<213> Pinus radiata

<400> 368
ctgagagtta agtgattgtt gggagggaaa agagaaaaaa gaggagatca agaatggtga 60
ggggaaaaat ccagatgaag aggattgaga atacggccag caggcaggtt acattttcca 120
agcgtagaaa tggattgctg aagaaagctt acgagctctc ggttctctgc gatgcagaag 180
ttggacttat gattttctcg ccaggaggaa agctctatga attcgccaat accagcatgg 240
aga 243

<210> 369
<211> 184
<212> DNA
<213> Pinus radiata

<400> 369
ctatgctatt acagaatgtg cctccagcac tacttgtccg cttcttgcgg gaacatcgct 60
cagagtgggc tgattgtaac attgatgctt attcttcagc taccatgaaa gcaaatgctt 120
acaatgttcc aggttcactg ggaggcatta cagggagtca agttatcctt ccactggcac 180
atac 184

<210> 370
<211> 158
<212> DNA
<213> Pinus radiata

<400> 370
acatcccgtc ttcactttgt tgatcaacaa ttacgacaac agcgagctct tcagcagcta 60
ggaatgatac agcagcatgc ctggagacca caaagagggc ttccagagag ggccgtttct 120
attctccggg cttggctatt tgagcatttc cttcatcc 158

<210> 371
<211> 462
<212> DNA
<213> Pinus radiata

<400> 371
gcagtggtca tatggatggg ggatccggag aggaccaaga tgccgccgat caagatcacg 60
atcacgatca cgatcatgat cacgagcagc agcagacgcg gaggaaacgt taccacagac 120
acactgctcg tcaaattcag gagatggaag cgttgtttaa ggagtgtcca catcctgatg 180
acaaacaaag gcagcggctc agcattgaat tgggccctta agccgcggca ggtgaaattc 240
tggtttcaaa atcggcgtac tcagatgaag gctcaacagg atcgctcaga caacgccatt 300
ctccgtgcag agaatgaaaa tctgcggaac gagaacgtag cactccgaga agcaattaaa 360
aatggtgctt gtccaaactg cggagggtct acatcgctgg gagagatgcc tggattcgac 420
gaacaccatt tccgtataga gaatacgcgc ttaaaggagg ag 462

<210> 372
<211> 510
<212> DNA
<213> Pinus radiata

<400> 372
gcaaccggag ctttaagact agaatatata tgtagccctc gggctctgac gaatactgaa 60
actagagata cccacctctt atctggtgtg taaggcacgc aaaatgggaa agaagaaggt 120
ggaggtgaaa ctcattcaaa accctaccag tcgccaagga tgtttctaca accgcaagtg 180
cggtttgctt aaaaaagcgt ttgagctttc tgttctctgt gatgctgaag ttgcccttat 240
aatcttctcc caaaccggca agatttacga gtttgcaagc catgacgacg tcaacgcaat 300
tctcgcaaaa taccggatac aaacgggaac aacaacaaac gcgatgcctt cctcgcttca 360
aaacaccgag ccggagacgt tgcatgagga gacaaatatg ttgggaaaaa ggaaaaaagt 420
ggagaagttg catgagaaga tcaatatgtt ggaaaaaaga ggaaaaaaca tggtttggtg 480
aaaatttgga gtcattaacg gtcaatgaat 510

<210> 373
<211> 466
<212> DNA
<213> Pinus radiata

<400> 373
tggatcacca tgcagtagag gatagggagt taaaaaatca tctccttcgc aaatacagtg 60
gatatttgag tagtctaaaa caggaattca tgaagaagaa aaagaaagga aagctcccta 120
aagatgcacg gcaaaagtta cttgattggt ggagtctgca cgacaagtgg ccttatcctt 180

cggaaacgga gaaaatagct ttggctgaat gcacggggtt ggatcaaaaa caaataaata 240
attggtttat aaaccaaaga aaacgccact ggaagccttc tgaagatatg cacttcatgg 300
taatgaacag tcacagtcct cacagtgctg ccttgtatgt tgagagacat atgatgactg 360
aagggtatct ttagattgct agaaagaacc ttcggctgaa aacagcacac aatgctattg 420
cttttgttgt atttaattgg catggctttc aattttaaaa aaaaaa 466

<210> 374
<211> 573
<212> DNA
<213> Pinus radiata

<400> 374
atctctgttg ggatctagaa ttgagaaagg gacgcttgtg ggctggtggg tttccacaat 60
gagaggctcc tcccgtgcat atgatgcatt ttattctatt tgttgatcct gtcaatggaa 120
aaaaagagag cagtcgaatt tggcattgaa atacatgatc agcaagagat tgaaacgtag 180
cttatggacc cccgaaggaa tggtgggggg gaatacgagg taggaggtag ccagccgaaa 240
gagctgatct cagagaacta ttatacaaac acagtctgca aaagaagaaa tactgtgatg 300
catttttgga tgatgcagta aaggcagaca cctatgaaaa aattgtttca ttctgagata 360
tggaacacct gaatgcagct gctgcccagg cctcctcttc gctttatgga gttagcatgg 420
ccgagtacgg agacgtcggc gtcagctcaa tgatggcgct gatgacccaa cacgagcctc 480
atgaaagcga gagcacaatg acgacgagta tgcctagttc attttcatcg ttccatggcc 540
atgctgaatg ccttctctca gcagcaatgt tcc 573

<210> 375
<211> 526
<212> DNA
<213> Pinus radiata

<400> 375
ggattcttgt atttttgtgt gttgctgctg caacagttct taaataccaa gacattgatg 60
agagcttgag taatatttct gcaaaaaccc aagtaaaccc tgaagctagt ccaaactagt 120
ggaaggaacc tcggctattc tgtaagttca ctcagatttt gagaaactct tgggattttg 180
ctcaaaatgg ggcgtggtaa aatagagatc aagaagatcg agaacagcgt gcacaggcag 240
gtgaccttct gcaagcgccg aggcggtctg atgaagaaag cctacgagct ttcagtgctg 300
tgcgatgcag atgtagcgct cattgttttc tcgagccgag gaaagttgta cgagctgggc 360
accagcaaca acaacaacaa cagtatgagg tcaatattgg aaagatatca aaagtgttca 420
cagacggcaa aacatatgaa cttttcgaat aatacttcag acgagaaaat gaagcaagaa 480
ataaatttac ttaaacacaa attgatcagc taaacttact aacaga 526

<210> 376
<211> 335
<212> DNA
<213> Pinus radiata

<400> 376
aaaatggcgg cttagatgaa ttacgagcag agactcatcg cagcggcacg gctagctgac 60
aacctgaact ccacgactgc aaaagaattt gatattccca gcgctgaaga agttgccgag 120
aaatgttcag aatggggagt caccgcacag ctgaaggcac accaggccca aggactgtca 180
tggctgatac gccgatatgc cattggcgtc aatgttatac ttggggacga gatgggactt 240
gggaaaacat tgcaggctat aagtttgttg gcttacttga aagatcgacg gaaatgccca 300
gggccatttt tggtattgtg tccattaagc gtaat 335

<210> 377
<211> 773
<212> DNA
<213> Pinus radiata

<400> 377
gaagtgtgga tgttcttact gctttctcaa ctggaaatgg aggaacaatt gagcttttat 60
acatgcagat gtatgcgcca actactttag cttctgcccg agatttctgg actcttagat 120
acacttctgt attggaagat ggtagtcttg tggtttgcga gagatccttg agtggaactc 180
agggaggtcc cagcatgccc gcggtgcagc agtttgttag agcagaaatg caacccagtg 240
gatatttgat tcggccatgc gaaggtggag gttctctaat tcatattgtt gaccatatgg 300
atttggagcc atggagtgtt cctgaagtgc tacgtccact gtatgaatca tccactgtac 360
ttgcccaaaa ggttacaatg tcggccttac gccatttgcg tcaaatagca caagaggcat 420
cttctgatgt ggtccttggc tggggaagac aacccgctgc attacggaca tttagccaga 480
gattgtgcaa gggtttcaat gaggcagtta atggcttcac agatgatgga tggtctttga 540
tgggtaacga cggaatggag gatgtaacta ttctcgtcaa ttcatctcca agcaaactgt 600
tcggtcaaca gtttgcttct tccgatgggc ttcctgctct tggtgggggc atcctatgtg 660
ccaaggcttc tatgctatta cagaatgttc ctccagcatt gcttgttcgt ttcttgcgag 720
aacatcgatc agaatgggca gatagtaata ttgatgccta ttcagcagcc tct 773

<210> 378
<211> 407
<212> DNA
<213> Pinus radiata

<400> 378
atggcaatgg aagagaggag tggtgatctt ttgaaaggct gtggtctttc tgagaatgca 60
ttggatgcta tctctgaggg ttctatacag aatcattggt catggtcaga agtcaagcaa 120
ttgtctgtaa ctcttcttcg tgctctagat gcgggaattg aacactctct ccttggttct 180
atgatgtcaa tagacagata tgcagcagca gagagctttc atagacttgc ttgggcttat 240
gcacacgtgc cagatctgca tatcatgtgg cttcttcatt tatgtgatgc tcatcaagag 300
atgcagtctt gggcagaagc tgcgcaatgc gcagtggctg ttgctggggt cataatgcag 360
gcattggtag gaagaaatga tgctgtctgg ggaaaggagc atgtaac 407

<210> 379
<211> 385
<212> DNA
<213> Pinus radiata

<400> 379
cgaggtcgag tccagctgag gaggatcgaa aacaaaatca gtcgtcaagt aactttttct 60
aagagacgga acggactgat gaaaaaggcg gcggagctgt caatactgtg cgacgctgaa 120
gtggccttaa tcgtcttctc caacaaagac aaactgtacg agttcgccag ttccagtatg 180
accaagattt tggaaagata tcggaagcgt tcaaatttaa tacaagatat cggtaaagat 240
ccacagaatt cagacattga gttgacgcgt ctaaaagaag aggttgaccg cttacaaaga 300
tccagaaggc atcttttggg tgaagacctt catcaactag gtgctacgga tctgcaacac 360
ttagaacaac agcttgaaga agcgt 385

<210> 380
<211> 513
<212> DNA
<213> Pinus radiata

<400> 380
tttcaatgcc cctcttttc cagtggacga gtgttcaatt ttccctgtgt tgatctgata 60
cctataaatc tgatggattc ttttgaggca aagggaaagg gagagaagag gagaacggtg 120
aggggaaaaa cccagatgaa gaggattgag aacgcgacca gcaggcaggt tacttttct 180
aaacgtagga acggtctcct gaagaaagct tacgagctct cggtgctttg tgatgccgaa 240
gtggcactta tggttttctc cccaagaggg aagctctatg agttcgccaa tcccagcatg 300
cagaaaatgt tggaacgata cgagaagtgt tcggaaggaa gtaaaacaac aagtatagca 360
aaagaggaag atcccaaggc tttaaaacga gaaattgcga atatggaaga aaggattgag 420
attcttgaac gcacgcaaag aaagatgttg ggcgaggaac tggcatcatg tgcattgaag 480

gatttaaatc agttggagag ccaggttgaa cga 513

<210> 381
<211> 210
<212> DNA
<213> Pinus radiata

<400> 381
cacagttctg gaacctgtta aagagaaatc agtcgaggtc aaactccttc tgtttgcacg 60
aggatgccca gcattatgga gaagcaaaat agtggtgaag atagtgatag caagggtcag 120
cttgataatg gcaagtatgt ccgttacacc aatgagcagg tggagacttt agaacgtgct 180
tataatgaat gctcaaagcc cagcacaagc 210

<210> 382
<211> 380
<212> DNA
<213> Pinus radiata

<400> 382
cttcgttctc caggatttct cgacaggttt taaacgacgc tagcaacccc ctgtgatttt 60
acagtctgtt ttgccaggcc ggtgaaaatg ggtgcattcg cccttctatc aagctggatt 120
gatgctgcca ctaatcccaa gtacaggaag aagcgtaaac aatttcagac cgtggagttg 180
agagttcgaa tggactgtga aggctgtgag agaaaagtga gaaacgcact aaattcaatg 240
aaaggagtaa gttctgtaga agtggagaga aaacagtata aggcaacggt gacgggatac 300
gtggatgcca acaaagtgct gaagagagtg aggcaaacag ggaaaaaggc agaattgtgg 360
ccttacaagc cttaccatct 380

<210> 383
<211> 407
<212> DNA
<213> Pinus radiata

<400> 383
ttttcaaaca cttggttttc aggcaattta cttgcccctg gagccaacaa acagatgcat 60
cttgattcca gttctactgg agcaccaggg ctctcaaatg ttctgatagg ctccaagtat 120
cttaaagcag cacagcaatt gctcgacgaa gttgtcaatg taggtaaggg catcaagcct 180
gattcagcca aacatcagaa atcacaatca tggattggaa caacagctaa taaagagaat 240
agtggagctg aaggtggtgg gaaggatgga gcagctgctg cccctacatg gcgttcaact 300
tcagcccaag aaacaaatga ccgtccctct gagctgtcac cagcagaaag acaagagctt 360
cagatgaaaa aagcaaagct tgtggccatg ttggatgagg ttgatca 407

<210> 384
<211> 441
<212> DNA
<213> Pinus radiata

<400> 384
ggcaagaata gttgcctgat agcacggaat ttattaagtg gccttagaac gtgttcagag 60
atcgctgaat acatgtccca caatgtatct gcaatacagc atggagttgg ggatgtatca 120
acactccact ctgatggtag caggaagact gattgtggtg atattctgaa gttcggacaa 180
gagcaagatt ttggcgtaga aaagggagag tgcggaggtt taagtacaca tgcaagtctg 240
ctggtcatcc atcaatcagg aaaagaatta aagatggaaa aggacagcca tgtagacaat 300
atacaccatg tggttgtcaa ctgacatgtg gaaagcaatg cccttgcctc cgaaatggga 360
cttgctgtga aaaatattgt gggtgctcaa agagttgcaa gaaccgtttc agaggttgtc 420
attgtgctaa gagtcaatgc c 441

<210> 385

<211> 423
<212> DNA
<213> Pinus radiata

<400> 385
agcagatgaa agcctttgga ttccgaacct ggatgctggt aaagaaactc ttagctatga 60
agaatacatg cgccaattcc cttccacaat tacgccaaag cctataggcc ttgccactga 120
ggcgactaga gaaactggca tggtgatcac aaacagcttg aatcttgttg aaacactcat 180
ggatgtggat cactggaagg aaatgttccc ctgcatgata tccagggcag ccacagtcga 240
tgtaatatcg agcggaatgg gcgggacaag gaacggtgca ctgcaactga tgtatgcaga 300
attgcaagtg ctttcaccgt tggttcctgc tcgagagtac ttctagagcg gccgcgggcc 360
catcgatttt ccacccgggt ggggtaccag gtaagtgtac ccaattcgcc ctatagtgag 420
tcg 423

<210> 386
<211> 445
<212> DNA
<213> Pinus radiata

<400> 386
gcaaagcgaa aatattatgt ccacgaggat cccaagctcg ttttcatcat tccatggcca 60
tgccgattgc cttctctcag cagcaatgtt tcagggttct caaggagatc ataagctcaa 120
tccacagcct gggatgaacc agcagctagt ctctgagcag tctatcatgt cagattcgtc 180
catgccgttt gttaagacaa aagcttgctc tggtcttcgt aatcagtttg aatttcacag 240
ggaacaaccc ggaaattgct acacagatca gtcctcaaat attccgctaa gccccatagt 300
cacatcgtta gcctcgcagg ctcgaggaga agcgcggatg ataccgtcct tggatgccaa 360
cagtgctcat ttcaatgtgg ataacgagga gcatgcaata aaatcgaaaa tcttagcgca 420
cccacagtat ccgagcttgt tggga 445

<210> 387
<211> 343
<212> DNA
<213> Pinus radiata

<400> 387
gaactagtca atcagagatg ccatgagaaa tcccatctgc acaaactgtg gaggacctgc 60
tgttcttggc gagatgtcct ttgaagagca gcaacttcgc attgagaatg cccgcttaaa 120
agaagagctg gatcgattgt gtgcactagc agggaagttc tttggcagac ccattccttc 180
aatgccatct gttcccctta tgcctaaatc atccctagac cttggagtcg gtggcatgcc 240
cacttcgttg ccctcggcta gtgcagactt gatgcatgga cctgctggtg gtcgaacagg 300
aaacataata ggtattgaga ggtcgatgct ggctgagctt gct 343

<210> 388
<211> 1193
<212> DNA
<213> Pinus radiata

<400> 388
ccgttgttgt tcctttctcc accctcagcg tctccttaca cacacaattc aatcaatccc 60
ctcgccacgc caccgcgttc gcctgttctt cctcctctgg atcaacccat tcccacagtc 120
ctacttcgct caatccgacg gctaattttt gcgaaatctc tgtctctttc tcttattacc 180
ggtttctgat tagaaactgg caaaaacaga ggatttagca gtacccaact ggggaacaga 240
gcgttccgaa tgatgggtat tgttgtttcc tgctgtctgg tatctcgcat gcgagctctc 300
tggagaagca gcttctttcg ccataaagtt cacatatctc tgggcaacta ctggttttgc 360
tagcgattct gaggtgggca tatgctcagc ttttaatgct actagaggac accgtttgaa 420
ggagtttttc tctgaggaga tgatgatgtc tggtgggaga atgtatggtg ggccgaacgt 480
ccttgtcacg gccaacgaga acatttcccg ctctgcagat gcactggaag ctctactttc 540

ttctcctgtt ttcaatggtt caagatctgt agctaatttg gaggaggtga taggtaatgt 600
gtcaaaaaga tcattttaca attcctttga ccaggaagaa actggagatg aagaccttga 660
tgattgtatc catccaccgg agaagaagag aaggctgact gctgaccaag tgcagttcct 720
ggaacgaagc tttgagatcg aaaacaagtt ggaacctgag cgcaagatac agctagccaa 780
ggagttgggc ctccaaccta ggcaagttgc agtctggttt caaaaccggc gggcaaggtg 840
gaaaacaaag cagttggaaa ggattatga tattctgaaa tcacgctatg agaatttgag 900
agttgattat gatagcctgc tcaaagaaaa ggataaatta agggctgagg ttaccttcct 960
aacagacaag ctacacgaca gtgaccatga agccctcaca aaggattctg agtctgctga 1020
caagaaagtc tatccccagc ctgcctccca ctctgactgt gttggggagc ctgaaagaag 1080
tactgctgcc aaggatacac caccaggttg taaacacgaa gatcttctga gctctggaac 1140
agatagcagt ggggtcctgg atgaagatag tcctcaccat gttgactgtg gtc 1193

<210> 389
<211> 385
<212> DNA
<213> Pinus radiata

<400> 389
aaaattgaga atactacaag ccggcaggtt acattctgta agcggaagaa tgggttgctg 60
aaaaaagctt atgagttatc tctgctgtgc gatgcagaag tggctctcct cattttctcc 120
accagtggga gactctatga atttgcgaat aagagtgtta gcgcgacaac ggagcggtac 180
atgagaacct atgcagagaa catgcctcag tctcgagctc tgtatccgga ttgtcaccat 240
tggcaagagg aagtcagaaa acttacacag caacgtgata gtctaaccaa ttcgatcaga 300
caaataatgg gtgaaggcct tgaatcatta agcatgaagg agctcaagca tattcaagtt 360
caattggaaa aaagtattag ttgtg 385

<210> 390
<211> 359
<212> DNA
<213> Pinus radiata

<400> 390
gtacactgca gagcaggtgg aagctctgga acgcctttac aatgactgcc caaagcccag 60
ctctctgcgt cgccagcagc tcatcagaga atgcccaatc ctttcacaca tcgagccgaa 120
gcaaatcaaa gtctggttcc agaatcgaag atgtagagag aaacagcgca aggaggcaag 180
tcgtctccag actgtcaaca gaaagctcac agccatgaat aagcttctta tggaggagaa 240
cgatcgcctt cagaagcaag tctcgcagtt ggtttacgag aatggctatt tcagacagca 300
gatacagact gtttctatta ccaccacaga tactagctgt gagtctgttg ttactagcg 359

<210> 391
<211> 257
<212> DNA
<213> Pinus radiata

<400> 391
caagcatgaa tttgatgtgc ggtatcagaa gcttgaggac aaactatata ttgcacagct 60
ttatttcccc ctgattggac tgatattgga tgagatgccg gttttttaca acctcagcac 120
agtggagaag cgtgaagttc taatctgtat catgcagata atccgcaatt tggatgaccc 180
atctcttatt aaggcatggc aacaaagtat tgctagaaca aggctctttt tcaagcttct 240
ggaagaatgt cttgtcc 257

<210> 392
<211> 290
<212> DNA
<213> Pinus radiata

<400> 392

ggcctcctcg tgactatgag actcttcgca gcgactgaac cgaaacgtgt cttcgcagtg 60
acaaaacgta tttttcttct tggtttcgtg tctttctttc tgcgtgaggg cctcgtagcc 120
agcgtgtggc ttcctgtttc tccgcaaaga ttatttgatt tcttgaggga tgagagactc 180
agaagcaagt gggatatact atcaaatgga ggtccaatgc aagaaatggc tcacattccg 240
aaaggacaag atcctcgcaa ctgtgtttct cttctaagag caagcatatg 290

<210> 393
<211> 465
<212> DNA
<213> Pinus radiata

<400> 393
gctggtatca ttatacaaca atcatttgaa tggaatattg gcagatgaaa tgggtcttgg 60
caaaacagtg caggtaattt cattaatatg ttacttgatg gaacaaaaga atgacagagg 120
acctttcttg gtagtagtgc cttcctctgt attgtctggt tggctgagtg aaattagctt 180
ttgggcccct agcatcagta aaattgcata tacaggttct cctgatgatc gccgtcgatt 240
attcagggag aacatttctc agcaaaaatt taacgtgctc ttaactacat atgaatactt 300
gatgaacaaa cgatcgacca agactgagta aaatttcatg gcattatatc ataattgatg 360
agggacatcg cataaaaaat gcatcttgca aactgaatgc tgagctgaag cactatcata 420
gtagtcatcg attattgctc acgggaacac cactccagaa taatc 465

<210> 394
<211> 157
<212> DNA
<213> Pinus radiata

<400> 394
tcccaaagat gctgacaaac atatgctagc aaggcaggca ggtttgacaa gaagccaggt 60
ctcaaattgg ttcataaatg cacgtgtccg tctctggaag cccatggtag aagaaatata 120
tatggaagaa atcaaggaag ctgagttagg acattca 157

<210> 395
<211> 384
<212> DNA
<213> Pinus radiata

<400> 395
accaatttaa cggcgaagca accgaccccc ctgaaatccc cttaacacga atttctgagc 60
tggggccggt attgtgtagc agcaggatga tgacgccaag gtttatgaat ccccccttcg 120
acggaagaac gcagaggcac cgcggacccg atggagattt ctacccctgg aatcggccct 180
tgaaaatcct taccagggtc tcatgaagca ctgcacatcc ctgctaaaaa cgctaatgaa 240
tcacaaattt ggttatgttt ttaacgagcc cgtcgatcct gtggccctgg gggttcccga 300
ctatttcact gttattacct cgcccatgga tttgggcacc atcaaggcaa aattgcagga 360
cagcgtttat tcaagccctc tcga 384

<210> 396
<211> 694
<212> DNA
<213> Pinus radiata

<400> 396
gttgcactgg agttgctgca cgagcttgtg gctttgcagg tctcgaacct tcaaaggtcg 60
cagatattct taaagatcgt cccgcttggc ttcatgattg tcggcgcctg gatgttttga 120
ctgcatttcc tacgggaaaa ggaggggcag tcgagcttct atacacgcaa atgtacgctc 180
caactacatt agcccctgct cgggacttat tgactctgag atacacatca ttgttggaag 240
atggcagcct tgtggtttgt gaaaggtcat tgactggtac tcagagtggt ccaaacatgc 300
cgcctgtcca gcactttgta agagcacaga tgcttcccag tggttatttg atacgtccct 360

gtgaaggtgg aggctgtata attcatattg ttgatcatat ggacttggag ccttggagtg 420
ttcctgaagt tatacgccca ctttatgaat catctgctgt actggcccaa aaaatgacca 480
ttacggcatt gagacatttg cgtcaagtag ctcaagaggt ctcaggtgaa gtggttcttg 540
gttggggtag gcagccagct gctctgcggg catttagcca gagactgtgc aggggtttca 600
atgatgctgt gaatggcttt gcagatgatg gttggtcttt gttgggtagt gatggggtgg 660
aggacgtgat cattgccata aattcatctc caag 694

<210> 397
<211> 493
<212> DNA
<213> Pinus radiata

<400> 397
ccaatattta cgtcagcaat tacaattgct gcatgcacgt gctggcaata acaccagatc 60
tcttcagcag atggcagtga ctgcaaatga caccagctct gattcagttg taacaagcgg 120
gcaacggcag caacactcac cgcaacatcc tccatacagt gtaagtacct ccaggttgtt 180
tttcatagca gaggagacat tgacagagtt tctagcaaaa gctacaggaa ctgctgtgga 240
ctggatccag atgcctggga tgaagcctgg tccggattcc attggtgtgg tggctgttgc 300
acatgcttgt ggtggagtgg ctgtgcaagc atggggtgtt gttagtttgg aaccttcaga 360
ggtagctgaa gccttgcgag ataaggtatc ttggctttgt gactgccgga agatggaggt 420
tctggggact tttgattcaa ctgatggacg gaaattggaa ctattacata cacagatgta 480
tgctccaata act 493

<210> 398
<211> 436
<212> DNA
<213> Pinus radiata

<400> 398
atggggaaga cgaagatgga gatgaaacac attcaaaacc ctagccgccg ccaagttact 60
ttctcgaaac gcaagaacgg attgctaaaa aaggcattcg agctttctgt tctctgcgat 120
gctgaagtcg ccccttatcat ttctcggaa actggcaaga tcagcgagtt tgcaagccac 180
aacgacatgg caacaatact ggaaaaatat cgcatataca cgcaaacaga aacagatgga 240
aacatggggg cttcgtcggt ccaaagcgtg aagggatggt ttcctaattt tctcgagatt 300
gcgggattca gtgtttgtgg atgatcccta ttattgcagt gtgggttggg gcacgagggg 360
tgcagttgac tcgactcata tgattggaag gttggtgaat cacaattgaa agcgttgcac 420
gagaggatgg acaatt 436

<210> 399
<211> 419
<212> DNA
<213> Pinus radiata

<400> 399
ctcagagctc gacaaaacct acatacattc gtctgtcatc cctcccagaa atacctagtg 60
agggcgatcg aggtcgaaag gggcatttta cgccattgaa gcggtgtgca tagggtcaac 120
tctgagaact gattgtgtct tccttcggag ggagagggtt agcgaggttc agaaagagag 180
agaaagagaa agtagtccta agggactgtt taaaatgggg cgaggtccag tccagctgag 240
aaggatagaa aacaaaataa atcgtcaagt aacgttttcg aagagacgga atggctgat 300
aaagaaggcg tcagagctgt caatcctgtg tgatgcggaa gtggccttaa ttgtcttctc 360
caacaaaggc aaactctatg agttctccag ttccagtatg accaagattt tggaaagat 419

<210> 400
<211> 690
<212> DNA
<213> Pinus radiata

<400> 400
cttagccttt ccccccaaca gctttcaaat atccaattat cctgctttca aaatcagcct 60
acagactcag aagtgaattg ccccagtatt tcagaagcaa cttcacagga gaacttgaat 120
aggtctgata gactaacaag taaattgtca ggaagtctga gttcttttcg ggcttcctca 180
agggatggga tgctaggaac taaatttcta ggtagtgtga atggccctga gtgtaacaaa 240
ccgatgcatc atggtacgaa tgcaattgga gcagcagagc tctcaaacac tttaactggt 300
tccaaatatt ttaaagcagc acagcaatta cttgatgaag ttgtaaatgt tggaaagggt 360
atcaagtctg attcagtcaa ccatcaaaaa tcccaaacat ggtttggtgc aatatctgac 420
aaaaagaata ttgcaactga agctactaca aatgaccgaa caacatctgc aataacagga 480
gcttcaattt ctgcagaagt aatgaaaaac gagcatgctt ttggactcac accagctgat 540
agacaagaac ttcagatgaa aaaggcaaag cttgttgcca tgttggatga ggtggatcga 600
aggtacagac agtactatca tcagatgcaa atcgttgttt catcgtttga gaccgcagct 660
ggatttgggg ctgccaagac atacacttct 690

<210> 401
<211> 383
<212> DNA
<213> Pinus radiata

<400> 401
ttctcgcccg tttttttccct gcactcacca cttccatcgc cattgctgga accctagaag 60
accagtctct ttcttttttta actcaggagt taaatcgcaa tacaaaactc ctgtgctgga 120
ctctattgta tcatagtatt cagcaagaga ggccatgggg cggggaaaga tcgagctgaa 180
gaagatcgaa agcacaagca acaggcaggt gacgttctcg aagcggcgga tggggttgct 240
taaaaaggca caggagcttt ccgtcttatg cgatgcagag gtcggcgtca tcattttctc 300
taataccggc agactctacg acttctcgag ctccagtatg gagaagatga ttgaaacata 360
ctatcgattt attgaaaaaa atg 383

<210> 402
<211> 846
<212> DNA
<213> Pinus radiata

<400> 402
atcaaatcta actggatatc caagtgtacc gttatttggt tacttttgtt cgcaggatgc 60
ttctatcccc attttgtggg aggaaattac tcagcccata ctagagttga atcctttggg 120
gatagacttc ctaccattgg atttgtgtct gttgcaggct gcataatgtg tttccatttt 180
gcgcattgtt tctttgaatc ttaattgcta gttttcctac ttttgtatgg ccttttaggt 240
aacattgttc ttagttttac aggtccttga tcggggtgaa aagatagaac ttttggttga 300
caaaacagag aaccttcgat ttcaggctca agacttccag aagcagggaa cacaacttcg 360
ccgaaaaatg tggtttcaga acatgaaagt caaactggtt gttcttggaa ttgtctttgt 420
gttgattctt ataatctggc tctcaatttg ccatggattt aagtgccatt aatcttgatt 480
acttggcagt cctttctaga tacaatcctt tcgaggcatt tatattcatt ttttggcagc 540
ttggcttata atagatgcag gctctctttg aaaagagtat cttttgtgtt gtgtctgagt 600
aatgtatttc attcacttgg atactctcat cattagatac tgattatcta tgtttttctc 660
tgacgaggga caatgcctcg actcttcata gtttaggtta ttggcactac ccatcagctg 720
tgatgtcaat ctcttttata aatatgaatc cctgcttttg gttttcaatt ttaacgttca 780
catagcctgt attatcagca gtgcttaatt aacgcgggaa acctttggat aaaaaaaaaa 840
aaaaaa 846

<210> 403
<211> 333
<212> DNA
<213> Pinus radiata

<400> 403
gccaaattcg cgctctgatg gaaatgggaa ggctgaccgt agtgattcta tgggaacaga 60

agctcgaaca cgaacaagat tttggcgtag aaggggaaga gtacggaggc tgaagtacac 120
ttggaagtct gctggtcatc cctcaataaa aaagcgaatt gctgatagca aagatcagcc 180
atgtaggcag tttacaccat gtgattgtca atccatgtgt ggaaagcaat gtccctgcct 240
acgtagtggg acttgttgtg aaaaatactg tgggtgttcg aaaggctgca agaatcgttt 300
ccgaggatgt cactgtgcaa agagtcaatg tcg 333

<210> 404
<211> 881
<212> DNA
<213> Pinus radiata

<400> 404
cgcctctcag ttctctggta acgatatgcg taattatggt gctaaagaag ttacttcagg 60
gttggctacc ggcggtcaac ggccgccagc tctgcagcta aacctcgcag cccttgatag 120
cagcggagat ggcgcagccg ctaaagaaaa acgaacgccg aaggttaatc cgtattatct 180
taattcagag tttgtaatgg ggaaggataa gatgccgccg ccgccaccgg ataataagaa 240
agggggaatg aagagaactg ctcagggcaa gtcagaaatt agggaaacaa agagacctgt 300
tgctgatccc atgaacggca agatactgca agatgtcatg aaacagtgcg gatttctgct 360
atccaggctc atcaaacaca agcatggctg ggtttttaaa gcccccgtgg acactgtagc 420
gctcgggctg catgattata acaccattat aaagcagcca atggatcttg gtactgcaaa 480
ggcgaagcta aatgcaaacg agtataaatc gccacaggaa tttgcagggg atatcagatt 540
gacgtttaac aatgctatga cctataaccc aaatggacat gaagttcata tcatggctga 600
gcagatgttg cagtttttg aggaccggtg gaaaccgatt tgtgataggt atgaagagga 660
gaagaggaaa ttgtcatggt cagtaaatga tgggctatta cctggggcaa gccaaaatat 720
gaagaatttt ccttttggtg aaaccccaaa gaagaatttg aagaagacgg agcctcttct 780
gggtttgtcg ccacggcctc cacctaatgc aaagtccaag gctaatcaga ctttgcgagc 840
ccctgctccc aaaaaaccca aggcaaaaga ccttcataag c 881

<210> 405
<211> 434
<212> DNA
<213> Pinus radiata

<400> 405
gaaatttgat atatgtgtta ctagttttga aatggcaatt aaagaaaaga ctgcacttaa 60
acgtttcagt tggcgataca ttattattga tgaagcacat cgaataaaga atgaaaattc 120
acttcttgca aagacaatga gaatctacag caccaactac aggcttctta taactggcac 180
acctcttcaa aacaaccttc acgaactctg gtctcttctc aatttcttac ttccagaaat 240
ttttagttct gctgaaactt ttgatgactg gttccaaata tcagctgaca atgaccaaca 300
agaagtggtt caacaacttc ataaggttct tcggccattt cttctacgga gactgaagtc 360
agatgttgaa aagggtttgc ctcctaaaaa ggaaaccata ttgaaagttg gaatgtcaca 420
aatgcaaaag caat 434

<210> 406
<211> 450
<212> DNA
<213> Pinus radiata

<400> 406
aagctcggta attctgttca tagagcaaat ttaagttcaa cgcctgccca tactcagatt 60
ttgggatttt gctgaaaatg gggcgcggta aaatagaaac caagaagatc gagaatagcg 120
tgcgcaggca ggtgaccttc tggaagcgcc gaggcggtct gatgaagaaa gccttcgagc 180
tttcagtgct gtgcgatgca gaggtggcgc tcatcgtttt ttctggccga ggaaagctct 240
acgaacttga aaccagccac agcaacagga acaagtatgc ctgaccatat tcaacttcta 300
ctacacatca atgccggtgg ttttaatcta catttattga tcatgaatgt ttgcttttgc 360
ttcttctaat gttctaggcg ggctacattt aatttagagg gttcattctg gaatctgact 420
agccatcagt ttctattctg tgataaggga 450

<210> 407
<211> 376
<212> DNA
<213> Pinus radiata

<400> 407
cttggtctca acttacagac tgctgatact gtgatattat ttgatagtga ttgatgctaa 60
ggttatccag gctggtcttt tcaacaacac ttccacggct caagatagac gagagatgct 120
ggaggagatc atgcggaggg gaactaactc tttaggaaca gatgtgccta gtgaaagaga 180
aataaatcgc cttgctgctc gtagtgacga agaattttgg ctctttgaga aaatggatga 240
ggaaaggagg caaaaggagg ggtatcggtc aaggttaatg gaggagcatg aagttccaga 300
ctgggtcttt tcagtcccta caggaaagaa tgacaaaggt gttgaaaata tggattccaa 360
tcttggtttt gaccag 376

<210> 408
<211> 551
<212> DNA
<213> Pinus radiata

<400> 408
aggcggatag tccccatttc aatgaggcgg atgcaataaa atccaaaata ttagcccatc 60
cacagtatcc gaacttgttg ggagcttaca tcgactgtca aaagattggg gctcctcccg 120
aagttgcggc gcgtctagat gcgcttagcc atgaatacga aaaccaacaa catcggtcga 180
gtctgagcat cggaatggac ccagaactag atcaatttat ggaggcttac tgcgaaatgt 240
taactaaata ccacgaggag ctcacaaagc ctttcaaaga agcgatgtca tttttgaaga 300
agattgaagc ccagctcaat tccctaggca aaggaacaat acgaatttct ccttcagccg 360
agaatgatga aaagaccgag ggaggtgcat cttcagagga ggtcgaggat ggcagtggtg 420
gtgaaacgga ctttcaggaa gtggatcacc atgctgtaga agatcgggaa ttaaaagatc 480
atctccttcg taaatatagt ggatatctga gtagtctaaa gcaggaattc atgaagaaaa 540
aaaaaaaaaa a 551

<210> 409
<211> 366
<212> DNA
<213> Pinus radiata

<400> 409
tgtaagaatg tttttactag attgcaagga ccagtcaagg aaggacgaca cacagcactg 60
tttatggaga ttccaaagag aaatgagaat cccacttact ataggcttat agagaaccct 120
attgatgctc gaacaataga acaacgtctt gaccgctttt catatgggag tgttcttgac 180
tttgctgcag atgtgcagtt gatgctggag aatgctatac gtttttatgg tcactcttct 240
gaggtcaagg caaatgcaag gaggcttcaa gctcttcttct tccagcgtat ggctgattcc 300
ttcccagatg ataattttag ctcttttaaa actcgaagct tggttgctct tggtcaaagt 360
gcaaat 366

<210> 410
<211> 346
<212> DNA
<213> Pinus radiata

<400> 410
ctggtaaatt ctggtatggc ttttggtgca aaacgatgga tagcaacttt gcagaggcaa 60
tgtgagcgtc tcgcaagtgt cttggctagc aatatcccat caagggacct tggggttata 120
cctagccctg aagggagaaa gagcatactt aagttagctg agcgcatggt cacaagcttc 180
tgcgctggtg taagtgcatc aactgcacat acttggacaa ctctgtctgg aagcggtgct 240
gaagacgttc gtgtgatgac cagaaagagt gtagatgatc caggcaggcc tcccggcatt 300

attcttagtg ctgcaacatc cctctggctg cctgtgcccc ccaaaa 346

<210> 411
<211> 393
<212> DNA
<213> Pinus radiata

<400> 411
ttttggagtc acagttcgat caatcatttg aatatccacc ggtggagcag ttggttaagc 60
agtgtggtaa atttggtttg ctagagaggc tattaaaaca tttgaaagct caaaaacaca 120
agatgttgat attttctcaa tggactaaag ttcttgactt gctggaatac tatctaagtg 180
agagaggata tgaggtttgt cgcattgatg gaagtgttaa gttggaagat aggaaaaatc 240
agataaggga tttcaatgac ccagatagca acttttgtat ctttttgcta agcacacggg 300
ctggtggtct tggaatcaat cttactgatg cagacacttg ttttatctat gatagtgatt 360
ggaatcctca aatggatatg caagctatgg atc 393

<210> 412
<211> 830
<212> DNA
<213> Pinus radiata

<400> 412
gttaagcttg gaacgactaa cacttggctc agcagagccg tctcgggaca gcacagggcg 60
cagcagcagc agcagcagca ctacgcggaa cggagcgtgg aagagggcag gaaatggtgc 120
ggctgcgcgg ccggctctcg cgactgtatt cattctaatt tcttgaagct ccagaacccg 180
gcaagtgcgg gttcgagctc cgctgccgcc aacgcgctgt ccggcagatg gctaatgccc 240
ggacctttgc tgaacgacaa gattgagggg agggaagggg tcgagctact tggaggagaa 300
attccgggcg agtctattat ggcattatcc gcacaattta agactgcggg ttctgctgcg 360
ccagaaaggg ggctgttgaa tcttcattcg gcggatgctg tgaatagcaa cggagaacct 420
gtagatagcg gaggggccgg tggagataga gacggagggg aggaggcgga ggatcatgca 480
gcgttgtggc aaagcgccag gataaaagct gacattgtct cacatccgct ttacgaccag 540
ttactgtccg cacacttgga gtgtcttcgc atagcgactc cgaaggatca gcactcgatg 600
attgacgcgc aattagagca gtcgcagcat gtcgtcacca aatattccgt ccttggcaac 660
gataatttcc tcgtcggcga caagaaagaa ctcgatcagt tcatgacaca atatgttttg 720
ctgctttgtt ctttcaagga gcagctgcaa tatcacgttc atgttcatgt tatggaagcc 780
gtgagggcat gcattgacct tcagcattct cttctaacac taacaggagt 830

<210> 413
<211> 371
<212> DNA
<213> Pinus radiata

<400> 413
aagctgtgca gtacagtctc agccagcagc ctctgggact cgatggaatc caacaccaga 60
ccagattaga atcctagaaa tgttttacaa gggaggaatg cgcacccccca atgcagaaca 120
aatcgagcac attacagcac agctgaggca gtatgggaag attgaaggca agaatgtgtt 180
ctactggttt cagaaccaca aagccagaga aaggcagaag caaaagcgta acagcagcat 240
gcaccaggta gctgctactg cagcaaagaa aactccaaca acaataatgg cagataaccc 300
taatgaactt cacaagccca actccaacgg cacatactct ctctataatt tgcctttcac 360
agcaatgtct g 371

<210> 414
<211> 395
<212> DNA
<213> Pinus radiata

<400> 414

gagcactcaa aatggggaag acgaagatgg agattaaacg cattcaaaac cctagccgcc 60
gccaggttac tttctcgaaa cgcaagaacg gattgctaaa aaaggcattc gagctttctg 120
ttctctgcga tgctgaagtc gccctgatca ttttctcgga aactggcaag atctgcgagt 180
ttgcaagcca cgacgacatg gcaacaatac tggaaaaata tcgaatatac acggaaacag 240
atggaaacat ggagtcgtcg tcggtccaaa gcgtgaaggt ttgactagaa tgagaatttg 300
aagtttaacc cctgcaaata ttatattgaa gggaaatcat ggtccaaaat caagtcgcca 360
cccaagttaa agtgcaatgt aatcacttta gcttg 395

<210> 415
<211> 413
<212> DNA
<213> Pinus radiata

<400> 415
caaattcttg tactccacct gcaacgtttc aaggtaatcg atctatgagt gtttttgaaa 60
ctggaaatga gcgtaaaaga ccagctggca actcctactc ggccttggaa ttgtctgatg 120
acattgggga tgaagatggt tctgatgatt gcatccattt gggagagaaa aaaagaaggt 180
tgaccttaga gcaagtgagg gctctagaaa aaaatttcga aatggcaaac aaacttgaac 240
cagagaagaa aatgcaatta gcaaaggctc taggtctgca gccaaggcaa attgcagtgt 300
ggtttcaaaa caggagagca agatggaaaa ccaagcaact agagaaggac ttcaatattc 360
tcaagcacga ctatgattct ctgaagcaaa attatgataa tcttatggaa gaa 413

<210> 416
<211> 355
<212> DNA
<213> Pinus radiata

<400> 416
ggagcaccca aaatggggaa gacgaagatg gagatgaaac acattcaaaa ccctagccgc 60
cgccaagtta ctttctcgaa acgcaagaac ggattgctaa aaaaggcatt cgagctttct 120
gttctctgcg atgctgaagt cgcccttatc attttctcgg aaactggcaa gatcagcgag 180
tttgcaagcc acaacgacat ggcaacaata ctggaaaaat atcgcatata cacgcaaaca 240
gaaacagatg gaaacatggg ggcttcgtcg gtccaaagcg tgaaggttgg tgaatcacaa 300
ttgaaagcgt tgcacgagag gatggacaat ttgaaaaaaa aggaacgaaa catgg 355

<210> 417
<211> 661
<212> DNA
<213> Pinus radiata

<400> 417
ctcctctctg cagagccata cctcctcaat atgctttgca tctcttcttc gttttgaatt 60
ctcccgtctc tgcctaagta aattctcaca ataatatata cagccattct ctccatattt 120
ccgtaatcgg atgatacttc tggtttttct gttgctgtca tcgtgagaaa gatttgcgtt 180
tgtgtgtttg ctgaggaaat ttagtgttgg tagactctcg aagcgtatag ctgagagtct 240
ttaaacatgg gtattatggc ttgctcactg ggatcccgta tgcctactct gtggagcaca 300
agcttctttc gtcacaagca ctttctctag tagagctatt atcagaagaa ctttaggaag 360
caaggggtag ttgtctgtat taaataaaaa tggcgtccaa tgggattatg ttcaatgctt 420
ccaatcgaaa tttgatcgtc atggtgaatg aagctccatc cttcgaagct aattcaagtt 480
tggatggagt gatgaagaat gtgtcaaaga ggccattcta caatacactt gatgcagacg 540
aagcagggga tgaggatttg ctggacgagt gcgttcatca gccaggaaag aaaagaagac 600
tttcggtaga gcaagttcgc tttctggaaa agagctttga gttggacaac aagcttgagc 660
c 661

<210> 418
<211> 323
<212> DNA

<213> Pinus radiata

<400> 418

```
tctagaacga agcatacgac aacagcgcgc atttcaccac ttaggattga tggagcagca      60
cccttggcga ccgcagagag gacttcctga acgctctgtt tctgttcttc gtgcatggtt     120
gtttgagcat tttctgcacc cgtatccaac tgatgcagat aagcatatat tggctaagca     180
aactggcctt acaagaagtc aggtatcaaa ttggtttata aatgccaggg ttagactatg     240
gaagcccatg gtggaggaga tgtacatgga agaactcaag gaagaaaaag tggaccaagg     300
tacacacaat tctgaagctg aaa                                             323
```

<210> 419
<211> 1571
<212> DNA
<213> Pinus radiata

<400> 419

```
gttgttttct gtacagtgta acatggatat ctgatgttcg ccacagtgat tcttatggat      60
catacatata tatatttcaa ccaggtctga tatatatttg tgggaatcat atctaatact     120
gaaagcattt gctttctgct gctgctgtga tctattccta tgttctgtat tcgaatatga     180
tagattacct ttactcatat gaagcctctg ctgctgctag ttagtgtatt tatgtttcag     240
tatatatctt attctgctca tgccgggtat tttatgctgt ggatatggtc tgggaattaa     300
gagtaaccga ggctcaagag gccgaagctc ttagaatctt gatattttaa tgtttatctt     360
tttaacgtcc tttgagattt gacttggcct tggctggatt ggcggatcat gtgtgaagaa     420
gattttgtta ttataaatca agttttttta tacatgatca tgccaacagc aaattgtaat     480
gagtcatggt cctaatggtg gccattctta cagtttgtag gagccaggca tccttcttgt     540
agactttgag gcagcagtct tgttgttcct gctattaagg gatatggcta tgagctaatt     600
agaattgagg gcaacaatgg aaacgaatct cttaacgcag caacaatcag gttgccatga     660
tgctgaagag gactatgatg gtggttattg agtgttgatt aaataacaga ccccccaaca     720
atagaaacag aacatcagtt ggatgctggt tatagttgag acagttgggt tatgactgta     780
aaactgaaga cattggatgg caatggattt gagtcagaat ggctgcatga cagtggttat     840
actttgattt agctggggtt gtggtgatgg atatatggca gccgtggttt tggattttca     900
tgggagtggc tgcttgatca atatatggca gtttctactt atgtggacta gtatttcaca     960
aaggggaatg cctatatgga agtagtttta taaccatggt tatggattta agtttgatca    1020
attgtatgaa agtgtgtaca tggctctagt taagggcacg aggataggaa gctctggata    1080
tggacttcag cttggtggct gtatgacact gggtgccttt atatgcttaa ggatttgagt    1140
tgggttcatt gatttcattt tgttgcagat aatttgagaa gcaatccggg gatgaatcta    1200
aacgatcata cttacaattt atcacctatg gctaattcag gaaatcctga agagcagatt    1260
gatgaggatg cagtggatga ctttatgaac taccaacccg agtctaaaaa gagaagactt    1320
acagtagaac aggtgaggtc tttagagagg agtttcgaaa tcgagaccaa gctggaacca    1380
gagaaaaaga tacagttggc tcaagagctt ggacttcaac cccgtcaagt agctatttgg    1440
ttccagaaca gaagggcgag atggaagacc aagcagcttg agagagatta cagcgttctc    1500
aaagctagtt atgatgcttt aaaatctgat tttgagagat tgcagcagga aaacaaaaat    1560
atccgtgccg a                                                         1571
```

<210> 420
<211> 339
<212> DNA
<213> Pinus radiata

<400> 420

```
gattatctca tcacaaaaat ctttaatttg ctctttgaac cattctgcat catgtttaca      60
ataagtacct gtacaactca cgcacaatct ctgatataca gttttgttgc gaggggcacc     120
gtggtgcttg cggagtacac ggaattcaaa ggcaatttta caggtattgc cgctcagtgt     180
ctgcaaaagc ttcccgccag caacaacaag ttcacataca attgcgataa tcataccttc     240
aactaccttg atgaagatgg cttcgcatat tgtgttgttg cagatgaatc cgttggaagg     300
caagtaccaa tggcatttct ggagcgtgtt aaggaggat                           339
```

<210> 421
<211> 332
<212> DNA
<213> Pinus radiata

<400> 421
tgggtgccca ggcaatattc atgatgacga tgaagaagaa gatgaggagg agtgcagcgg 60
gactgggcag caaacgagga agaagaggag gctgagcttg cagcaggtga gatctctgga 120
gaaaaccttt gaggttgaga acaagcttga gccagaaagg aaattacaac ttgcacagga 180
attgggcctc cagcccagac aggttgctgt ttggttccag aataggcgtg ctcgctggaa 240
aaccaagcag ctcgagagag attacggaca gcttaaactc aatttcgagt gccttaaatc 300
gaacttcgat gccatcaagc aggaaaacca ga 332

<210> 422
<211> 461
<212> DNA
<213> Pinus radiata

<400> 422
ctgaagtgcc gtcgattgtt cgggaggata gcgttttcga agttcgttgt tgagttatct 60
cgcgagactg tagaatttta gggttgtttt ccacaaaccg acttttcccg acttcaaatc 120
ttgatattga agtgacatgg ccggcgagaa aagaaagatt aatagaatag ctaacgcttc 180
ggccaggcag gtcaccttcg cgaagaggcg gagggggctg ttcaaaaaag ctcaggagct 240
atcgatttta tgcgaagccg atgtagccct cctcgttttt tcttcaactg gaaagctgta 300
ccagtactcc agctccagca tgaaaatgat attggaccag tatattttgt attctagatc 360
aattcaaaag gatggaaagc caaatctgga ggagagtcac gatatccaaa agataaaaca 420
acaaattaaa gatattagtc aaaatttgag aaaactgcgt g 461

<210> 423
<211> 622
<212> DNA
<213> Pinus radiata

<400> 423
ataatcctct cctacatatt gcctcttcct ttcctctctt cttcatcatc agtcaatttt 60
cccttggaga ttttacattc ttaagaaaca gatgggtatg gatatggagg actgcaatac 120
agggcttggt ctgggaatga gtattggcct tgggatgaat ctaatgagag aagaccttca 180
atctcacaga catcatgtca atggccctcc tgtgcagttg gatctgctgc ctttagctcc 240
agtactgccg tcccgtgact tgccatgggg gaagacttca cccgggactg atggcgagag 300
atcggccggg gaatcgaaag caaccgtgcc caggcgaatc gatgtgaaca aattgcccgc 360
ttcctgttac tacaacgaag acacgggcac cattaatgtg tcgtccccaa acagtgccct 420
atcgtcgttt catgtggact ccggtggcgc gatcaacgct gagagcagct gctacggcat 480
gagcgtcaag agagagcgcg aagccaccga ggaattggag gcggagagag cttgctctag 540
ggttagcgat gaagaagctg atcaggaggg cggcaccagg aagaaactca gattgtccaa 600
ggagcaatcg gctcttttgg ag 622

<210> 424
<211> 373
<212> DNA
<213> Pinus radiata

<400> 424
attcaaaatg ggaaagaagt tggagctgaa acgcatccaa aaccctaata gttcacgtga 60
ttccttctcc aaatgcaaga ggggactgct aaagaaatcg gtcaagctct ttgttctctg 120
tgatgctgaa gtttccctca tcattttatc tgaaaccgcc aagatttacg agtttgcaag 180
caacaagtcg tgactagctc ttgtgaattc ttctgatcaa gttagagatc catatactga 240
tatataaaag catactttca cattgcaatt ggagcagatc tagatgcaga agtgcaacct 300

tattatacct aaaggccatc agctgcaaat caagacccat tttctatctt ttgagatcgt 360
gatacagagt ctg 373

<210> 425
<211> 440
<212> DNA
<213> Pinus radiata

<400> 425
ttcgatttca ggctcaagac ttccagaagc agggaacaca acttcgccga aaaatgtggt 60
ttcagaacat gaaagtcaaa ctggttgttc ttggaattgt ctttgtgttg attcttataa 120
tctggctctc aatttgccat ggatttaagt gccattaatc ttgattactt ggcagtcctt 180
tctagataca atcctttcga ggcatttata ttcatttttt ggcagcttgg cttataatag 240
atgcaggctc tctttgaaaa gagtatcttt tgtgttgtgt ctgagtaatg tatttcattc 300
acttggatac tgtcatcatt agatactgat tatctatgtt tttctctgac gagggacaat 360
gcctcgactc ttcatagttt aggttattgg cactacccat cagctgtgat gtcaatctct 420
tttataaata tgaatccctg 440

<210> 426
<211> 280
<212> DNA
<213> Pinus radiata

<400> 426
gtttcactcg ttctgccccg tctggattgg gctgcactga aatacattga acattggagt 60
tgtcgagcgc gagatatggg tcagcagtcc ctcatttaca gctttgttgc aaggggcacg 120
gtggtcttgg ccgagtacac ccaattcacg ggcaatttca caacaattgc caatcaatgc 180
cttcagaaga ttcctgccag caataataag ttcacctaca attgcgatcg tcacacattc 240
aattatctcg tcgaagatgg ttcacatact gtgttgttgc 280

<210> 427
<211> 539
<212> DNA
<213> Pinus radiata

<400> 427
caacagcgaa gccgatttcc aaagatggat agggagaaac tcatgaagat ggctggtgca 60
gtccgcactg gcggaaaggg tacaatgcga aggaaaaaga agacaattca taagactgcc 120
acggcagatg acaagagact tcaaagtacc ttgaaaagaa taggcgtgaa taacatccct 180
gctattgaag aagtcaatat ttttaaggat gaccatgtta ttcattttgc taacccaaag 240
gtccaggctt ctattgctgc caacacatgg gtggttagtg ggtcatcgca aacaaaaaaa 300
cttcaagatc ttttccctgg tatcatcaat cagcttggac cagagagttt tgccaatctg 360
aggaagattg cagaccagtt tcgaagaccg gaaccaaatc ctgcacaggg agaagatgat 420
gatgatgacg atgtaccaga gctcgttgaa ggtgagacat ttgaggaagc agctaagaaa 480
gactcctctt aaattttaat agatgagggg gcatgggatg tggaacaagc tagactgaa 539

<210> 428
<211> 1020
<212> DNA
<213> Pinus radiata

<400> 428
cattagcgca aattcattcc cctttttggc tcctgccgag cttgggcaga ttacagagaa 60
accctagtct cgtggattct cgatcgaaat ctgcacggcc tgtatacagt cttagcacat 120
tcactgagct gccataggtt tcttggaact ctttttccg cggctcttgc gagtttcaca 180
ggtttttgtt tgattgtatt ttgagggttt ttctttcttc gagggttttg ttttcccgtt 240
tttgtcccct tattctttca agacatctca gaatgatgca gccagccgtc ggtgttgctc 300

ctccccctcc tgttgctgca cccgcaatgg atccccagca gcagcaacag caatggatga 360
tgatgcagca gcagatgcag cctcagcagg ctcagcctca gccgcctcct caggctgggt 420
tttggccccc gcaacaccaa ccccaacccc agcatgccca atcgcagctt atggctcagc 480
aatacccgca gcagccgacc tcagctgacg agattagaac cctgtgggtc ggagatttgc 540
agtattggat ggatgagact tatctgcatg gttgttttgg taatagccaa gaggttgttt 600
ctgttaaaat tattcgcaat aaacagactg gacaatcaga gggttatggc tttgtagagt 660
ttgcaagcca tgcaggagcg gagagagctt tgcaaactta caatggtgca cagatgccca 720
acactgaaca attttacagg ataaattggg caacctttgg cattggagaa aagcggcctg 780
agattggacc tgattatcct atatttgttg gagatttagc atctgatgtg acagactatt 840
tgttgcaaga gacattccga actagatacc aaactgtaaa aggagccaag gttgttactg 900
atagggttac aggccgttca aaaggatatg ggtttgtaag gtttggggat gagaatgagc 960
aagttcgggc tatgacagag atgaatgggg tgttttgttc ctcaagacct atgcgaatag 1020

<210> 429
<211> 246
<212> DNA
<213> Pinus radiata

<400> 429
gcctcttttg gtttaggaga aagacgcctt ctaacaggac cagagcattc tatatttgta 60
ggagatttgg ctccagatgt cacagattat ctgttacaag agacgtttcg atctcgatac 120
acatctgtga gaggtgcaaa agttgtaaca gatccatcca caggccgttc aaaaggttat 180
ggatttgtta agtttgctga tgagaatgag agaaatcgtg ccatgactga aatgaatggt 240
gtttat 246

<210> 430
<211> 323
<212> DNA
<213> Pinus radiata

<400> 430
caaggcaaga gccaagtcta aagaagcaga ttatagagac atcagagaaa gccatagttt 60
tctcccagtg gactagtatg ctggatttgc ttgaggttcc actaaaaaaa tcgtgtatac 120
aatatagaag gctggatgga actatgtctg taatagcacg ggataaagct gtgaatgatt 180
tcaagacact ccctgaggta actgttatga taatgtcctt gaaagctgca agtcttggtc 240
tcaacatggt tgctgcaagt catgttcttc tgcttgatct ttgggtggaa tcccaacaac 300
tgaagaccaa gctattgaca ggg 323

<210> 431
<211> 414
<212> DNA
<213> Pinus radiata

<400> 431
ccctcggctt cgaagactac gtggagccgc tcaagatata tttgaataag tacagggagc 60
tcgaggggga gaagtcttcc atggcggcgc cgcccagaca gagcgacctg cagcagcacc 120
accatgtgaa cggaagcgat ccgcatccat atggccattc gccccacggt cctatggctt 180
accacgtgcc cggaggtgcg agctttcggg catggaaggt gactgtggcg tgttcatttt 240
gttattgtaa agaagtgata gagatggaaa tgggtcatgg taatggagac tgtaaagttt 300
aaactataaa atgtaaagtt gaattcctct ctgatgttca gtgtttactt tttttgaatt 360
ttattttttg ccccctttttg cattgtacag tctgtagctg tgcatgactg actg 414

<210> 432
<211> 525
<212> DNA
<213> Pinus radiata

<400> 432
ctgaaatatc gttaaattca ctcttttggt ctcagttact gcgtcgccaa tatggaaaat 60
ctccccaatc agcaacctga ccttgaaatt gctcaaacac acgaggatcc cgggtcccgc 120
caatttaagg gaattcgact gcgaaaatgg ggaaggtggg tatcggaaat ccggataccc 180
aaatctcgag agaaaatatg gctgggctct tacacgactc ccgagcaggc tgcccgtgct 240
tacgacgccg cagtgtattg tctgaaaggg cccaacgcca aattcaactt tccggaaacc 300
gtgcacgaca ttccgtctgt gacttctgtt tcccgtcagg aaattcagca cgccgccctc 360
aaatatgcct tgggccagcc ccctccgagt ttgcagtctc tggaagggca cgccgccctc 420
aaatatgcct tgggccagcc ccctccgagt ttgcagtctc tggaggggca cgccgccctc 480
aaatatgcat tgggccagcc ccctccgagt ttgcagtctc tgcaa 525

<210> 433
<211> 1196
<212> DNA
<213> Pinus radiata

<400> 433
ttcgcttccg aacataagcg cggttccagc gttcgtaaca aacttttgtg gccccttttt 60
atcgggagat cgcgggttcg agtccgttct tgtgttttct ccgcgtccgg agcactcagt 120
tcaggtgccc aaaaattgat cgttttcggt caaatttcgt taatttccga ggacgacttg 180
ctagttgtat ggttttaatt ttttttttca acgaagaaaa gtattaaaaa ttccagcatt 240
tacagttttg aggctcatag accgagggaa ttgcgatata aagcaacctt ctgcccttta 300
gctggcaccg gcagcagaac gggttggaat ggagttttag aagtatcaga ttgactattc 360
gctgtagaaa aggcaagagc ctgtctgaat ccgcattgga gctgccagat cttgtattct 420
aaggcaaaca ctggggcgag aaagatttcc acggccattt agaaaccgag ggctcaagga 480
ccattatttt gcaataaaat ttctcggatc gtggctatgg ccttcaccgg aacgcagcag 540
aagtgcaaag cttgtgacaa aacggtttat tttgtggatc aactgtccgc ggatggagtt 600
tcttaccaca aggcttgctt cagatgcaac cattgtaagg gaacgcttaa gctgagtaat 660
tactcgtcaa tggagggagt gctatattgc aagcctcact ttgaccagct tttcagagag 720
agcggcaatt ttaacaagaa ctttcagtcc caaagatcaa gcaaagcaat tgacggtctt 780
tctcctgaaa tgacaagatc tcctagtaaa gtgtccatga tgttctctgg aactcaagac 840
aaatgtgcta cctgtggaaa aacagcatac cctcttgaga aggtcactgt ggaaaactta 900
tcctaccaca agtcttgttt caggtgttct catggggggt gttcaatcag tccttctaat 960
tatgctgcac tagaaggcat actgtattgc aagcatcatt tttcccagct tttcaaggaa 1020
aagggaagtt acaatcatct cattaagact gcttctatga aacgagcagc tgcagtccct 1080
gaggtagcaa gtgcagttcc tgagatataa ttttactgtg atctagttac ttcattacca 1140
tttgtgtttg tattttgaag agtttacacg gtatgctagt ttgttgggga aaagag 1196

<210> 434
<211> 726
<212> DNA
<213> Pinus radiata

<400> 434
gttcaatttt ttcacttgca gtggaaatag aagcctgcag gtacctctag gctaccggag 60
ttcaaatccc gcacgatcac actcccttct tttaacattc cgagttcgaa tccccggaaa 120
cttctcgaca tggttaagcc ctcgcaaaaa cagaatatcc atgtcaatgg caagccggaa 180
agccgctcac tgatgtcgcg gcaattcaag ggaatccggc taaggaaatg gggaaaatgg 240
gtgtccgaaa ttcgaatgcc caattgcagg gccaaaattt ggctgggctc ctacgaatcc 300
ccagagaaag ctgcccgcgc ctatgacttt gcagcgtatt gtctgagagg atccaaggcg 360
aggttcaatt ttcccgactc accgccggaa attccttgcg cctcttctct atcgccgtcg 420
caaatccaag ccggtgcggc ccggttcgcc gcagaagaat tccagatgcc gtcagatgac 480
gacacggcgt catcgtcctg cggttctgaa gcggaatccg acttgccgcc ggaaattcca 540
tgcgcctctt ctgtatcgcc gccgccaatc caagccgccg cgcccaggtt cgccgcagaa 600
gaattccggt tgccgtcaga tgaggacacg gcatcatcgt cctgcggttc ggtaacggaa 660
tccaacattg acagccaaca gatttcggcg gagcagggtt cggcattttg ggattcacta 720
ttcctg 726

<210> 435
<211> 266
<212> DNA
<213> Pinus radiata

<400> 435
catcaatggc atcgcttttg ttcccgcagg ctatgctgca ctgccctgca caatacacag 60
aagcaatgca ccaaatctgc agccacaggt aagggcggga tcaagaggat tcgtaggcaa 120
caggaggctg ccccttcgcc gccagaggag gcaactttga atcagcaaac tccaccgtac 180
agaggcgtgc gtcgtcgcaa ctggggaaa tggtgtccg aaattcgaga accgaaaaag 240
aaaacccgaa tctggctcgg ctcctt 266

<210> 436
<211> 1775
<212> DNA
<213> Pinus radiata

<400> 436
acggaccaga gatttccaat atcggcgtcg caagtctttg agtatacggg acgattcccg 60
ccgtcgatcg taattcgtag aatctggacg cggctacaaa atcgctgccc gactccaacg 120
ttttctccag ttcggccagt gaggaagttt gagggttcac gttattgaga gaggacgcta 180
tttggttgcg atttcgagtg ctgtaagcag gcaacgacgc ctgttttgct ttagagttta 240
acagaaaaga agaatgtgtg gaggtgctat catctcggac tttataatac cccctgcgag 300
ccgaggccgc cgggtgactg ccagggatat atggcccgat tttgataagt tctctgagtt 360
tattaatgga ggtgctgcgg tggagtcctt tgatgtcagc gttgatgtcg atgacgacga 420
ggaggattcc gacgatgacg agttcctcga ttttgaggag agctatcaga acaagaagaa 480
gaagcagcaa cagccgatat cccccaccaa gggtttcgag cttcctttag ctcggggtct 540
tgatggaccg gcggccaaga gcgcggtgag aaagaggaag aatttgtaca gagggatcag 600
gcaacgtcca tgggggaaat gggctgcaga gatcagggat cccagaaaag gcgctagggt 660
ttggctgggt acctttaata cggcggagga agctgctcgg gcttatgatg cagctgcacg 720
aaagatcaga ggtaagaagg cgaaagtaaa ttttgttgat gagccaccac cctccgttaa 780
gaaggaaagt aataatgcta agggttccaa gaaagggtcc agcaagaaaa taaaatcata 840
tactacccca aaggctgact ttttcgaagg tttcaaaacg gcgaaccctt cgattgccca 900
atacaacttc catcagaaat tcccaaaccc tagctgtgat gatctagggt atcaaaaccc 960
cttgtcgcca ttacatgcca tctgcaatcg aaactttgcc gccaaacagt caagttccgc 1020
gttgcctgca tactccactg agttttctga tttcgatgat tccgaggtcg ataatctggt 1080
accccagcct gcgagttttg aaccgatgaa aaacataaat aaacgaaaag ggtataattc 1140
ctttgagtcc gacaccagca gcgtgtctgc tgatagatcc catatctcgt gggttacaga 1200
agtgaaaacc cctgaaatat cttctgtacc aaaagccgaa gccgactctg atcattatga 1260
ttttgctgat atgtctacgc cggttgcgac cagtgtttca gcaggcagcc ctgaggtaca 1320
gcttcctcca tttaataatg gtttgaacaa atcccctagt gttgaagatg gcgtcgctgc 1380
cgaaaaatcc cctaaattgg aggaaagttc acagttggag atctctgagg acttgccttc 1440
tttggaatca tatccgtggt tgttccagat gccgtatttc gagggcctgg atcagtcgtt 1500
gcagggtgtg ggtattggtg acgcttcgtt tccggacggt gagaacgact tgcagctttg 1560
gagttttgat gccgtgccta tttccgattc agcttattga attagccttg aatctcttgc 1620
ttgtaaacag taattagtaa ttatgtaaga atcaaggaga cttgttatgg cttcgttttg 1680
caggccttcg tctaataggg aacttgttta gatttttccc cttttttttt tttaaattca 1740
gtttgacggt gccactgtga tttaatctgc acatt 1775

<210> 437
<211> 585
<212> DNA
<213> Pinus radiata

<400> 437
accttttggc tacatcctca ctatctttcc atttggtaaa gttgaagggg accgagtgtt 60

attttagata aaagttaaga catttatgaa atccaaatct aaaaccagca aaaaccaaac 120
tcagtgtcga tctcatcgat cagagtagac cacaagtatt tctggtgtga atcacatcgg 180
agatggcatt cgcaggaaca cagcagaagt gcaaggcatg cgagaagacg gtgtacgtgg 240
tggatcagct cacagccgat ggttcagtct ttcacaaggc ctgcttccgc tgccatcatt 300
gcaatggcac cttaaagctc agcaactatt cttcttttga aggggtgctg tactgcaaac 360
ctcacttcga tcagctcttt aagaggactg gaagtcttga caaaagtttt gaaggaactc 420
ccaaagctgt gaaaaatgag aagttgaatg atggtgagat taagacaccc aacagggtct 480
ctgctttgtt ttctggcaca caagagaaat gccttgcttg tggaaataca gtttatccca 540
ttgaaaaggt ttctgtggaa ggtgtgggat accacaaggc atgct 585

<210> 438
<211> 351
<212> DNA
<213> Pinus radiata

<400> 438
gtttcggcct ttggaagagc ttctgaatga tgtaaattgg aggtcctgtt gccggcttag 60
tccatgtatt gatttgggtt ttttcacttt tgggtttttt cgatttctct ggggttttag 120
ggtatggatg gatctcagaa cagcggcggc aatgcggtgc ctccgtttct aaccaagacg 180
tatgacatgg tggacgacag ctccacggac tcgatagttt catggagccc cgggaataac 240
agtttcattg tgtggaatcc cccggaattt gcacgagact tgttacccaa gtactttaag 300
cacaacaatt tctccagctt tgtcaggcag ctcaatacat atggcttcag g 351

<210> 439
<211> 292
<212> DNA
<213> Pinus radiata

<400> 439
catgagaaga aggcagtatt gtggaacatg gatactctca aagctaaagg ttcccttgaa 60
gagcattcct tttgatcac tgatgtgcga ttcagtccta attcaacgcg cttggctaca 120
tcctcttttg acagaacagt caaagtctgg gatgcagaca atccaaacta taccttgcgt 180
actttttctg gtcatactgg gtctgtaatg tctcttgatt tccacccgaa caatgaagat 240
cttatttgct cttgtgacgg ggaaagtgaa gtccgttact ggagtgttaa cc 292

<210> 440
<211> 352
<212> DNA
<213> Pinus radiata

<400> 440
aatgggctat ttacaggaac ttgaagatca gataataggc cttcaaaatc ttgtgaaacg 60
gaatgaacgc ttatatggat ctggaaacac cccttctgga ggagtagctt taccatttat 120
cttggttcag acccgtccac aggcaacggt tgaaattgaa atctctgaag acatgcagtt 180
agttcacttt gacttcaaca gcacaccttt tgagctccat gatgatgcat atgtgctcaa 240
agcaatggga ttttgtgaaa agccatttac tgatggtatg gatgttactg gccatgatag 300
ttttgcaaat ggaactggat tcggagaaaa taacatgact ataactaaca tg 352

<210> 441
<211> 441
<212> DNA
<213> Pinus radiata

<400> 441
gacaagagtg ttgctgattg atgaccatcc actgttccgg gagggactgg caggtgcgat 60
ccaggccgag ccagatttcg aagtcgtcgg ccaggccggg accgtggacg agctgcgcgg 120
gcttgcgccg cagatcgagc cggacgtcgc gatcgtcgac ctgttgatgc cgtcggtctc 180

cgggatcggc gtcacccgcg agctgtgcga gctgctgcct aggtgccgcg tgctggggct 240
gtcggccgtg gtcgacgccg ccgcgatcgc cgagatgctg cgcgccggtg cgagcgggtt 300
cgcgctgaag acccagccgg cgccggacat cctcgatgcg gtccgccgca ccgtggccgg 360
cgagagctac ctgccgccga gcgtgtcgcg cgaggcgatc gacgccgagc tcgccggcgg 420
cgccccgcca tcgctcgcgc a 441

<210> 442
<211> 1056
<212> DNA
<213> Pinus radiata

<400> 442
accgagtgga gtggggtgtc ctaaagggag cgatgtatta ttgttggtgc gaggaagcag 60
atgagaagga ggggaggccg gtgtttgagg gttccagatg ttccattacc aacgaaaaat 120
ccaggtaggt cttcattcta ttccttcaat catggatccg ccctactctc agtaagctat 180
ataagatcat tcattcattc aatcaaatcc attggagtgc ctgttctggt atacttcttt 240
gcattggagg tcttggggtt tgaccttact cgttcgttcc tcgaagccct tggccgcttc 300
ccatttacaa taacttgtgt tgttgcggat ttgcacatgg tgtatgctgc cgacccagag 360
gaaccccgga tcgtatattc ttgtgactgt aacaaaataa ttcttgaggg tttccgctac 420
ggcaagtttg aggcttggga ttttgaccca gatctgtgtt gctgtttgat tccgcaagct 480
tggggagatc aggatctgct ctttgttgta aatgtcgata ttacccaaat cagattccat 540
tcatattagg gaagtatggg ccgataatct ggaagaggag tttaatctga tcagggaaat 600
tgttgatgac taccctctga tagccatgga cacagagttc cctggcatag ttgtgcgacc 660
cgtgggcaaa ttcaggaccg tccaagaata caattatgaa accctaaggt caaatgtaga 720
cgtattgaaa ttaatacaat tggggctgac gttttctgat gaagacggca acctcccaaa 780
ctgcggcacg gacagatact gcgtgtggca gttcaatttc agggaattca acatctggga 840
ggatgcttac gcctccgatt ccatcgagtt gctgcgccag agtggtatcg atttcaagaa 900
gaacagcgaa cggggcgtag actctcacct cttcgcagag ttgctcatgt cgtctgggat 960
cgtcttgaat gagaacgttc gatggatcac cttccacagt ggctatgatt tcggttacct 1020
gctcaagctc gtaatgaatc ggagcctgcc gcctac 1056

<210> 443
<211> 367
<212> DNA
<213> Pinus radiata

<400> 443
gagcatgctt gtcctatggc ctgtcacccc gggccctgcc ccccttgtct agtgagcgtg 60
agcaagagct gttggtgtgg gagtaaaacg cttgtatcac ggtgctcagt actcaacaaa 120
gggacgtcaa caaatgccgg tgttgggcct gttctatcgt gtggtcaacc atgtggacgt 180
ctgctagggt gcgaaaagca tacttgcgag caagagtgtc acccaggacc ttgtccaccc 240
tgcgatatcg tagatgttgc aaagtgctat tgtggtagac aagaaagggg gatggcatgc 300
gggacaggta tagtcgagac ctgtgtagta gaaggagagg gttcctggga aggcagatgg 360
caatgcg 367

<210> 444
<211> 553
<212> DNA
<213> Pinus radiata

<400> 444
ggtttgtcag atttggtgac gagaatgaga aaaaccgagc catgactgaa agaatggtgt 60
ttattgctct tcaagaccta tgcgaattaa tgaagctaca ccaaagaagt ccttgggatt 120
tcaacaacct tattccatga aaggtaacta ttacacacag gcatatggtg gtgcagttgc 180
tagtcaggcc ttccagtcag acaatgatcc aaataataca actatatttg ttggtgggtt 240
agatccaaat gcgacagatg aagatctgag gcaggttttt gggccatatg gagagattgt 300
gtatgtgaaa ataccagtgg gcaaaggatg tggttttgta caattcacca acaggtcctc 360

tgccgaggaa gctttgcaaa agttacacgg cactgttatt ggtcaacaat ctattcgcct 420
ttcttggggt cgatctccag caaacaagca gactgcaagc tggggagtgc agcctcaagc 480
agatccaaat caatggaatg gtggtggagc ttattacggt tatggtcaag gttatgaagc 540
ttatggttat gct 553

<210> 445
<211> 381
<212> DNA
<213> Pinus radiata

<400> 445
gcagtatctg tctcctggca aatcagctcc tttttggctt tgccaagata tggcaataac 60
ctctcaacaa catcatatga atgctcttcc atataacgaa cgcagtgaaa aacgccccaa 120
atttaaggga atccgaatgc gaaaatgggg gagttggggg tccgaaatcc ggatgcccaa 180
aaccagaacg aagatatggc tcggttccta cgaaacggca gagcaagccg cccgtgctta 240
cgatgccgcc ttatattgct tgagaggccc caacgccaaa ttcaactttc cggacactgt 300
accttcaatt ccgtcggcgt ttctctttc acgccaccag attcagctcg ccgccgctag 360
atatgcccgg gacgaactgc c 381

<210> 446
<211> 516
<212> DNA
<213> Pinus radiata

<400> 446
aaagatagct aggtgccgta agtctcgcgc agttaaaaga agtcacgaac tacaagcgat 60
agtccactcg ttttgatgta gtgccagaga tcgactcaga tagattccga tgttttgggt 120
ttctgttttt aaccttggaa ggttcaattt tacagtttct acgggaattc tcatattcaa 180
tctgtttggc agattgaact aaagattttt gtccgggtga tttttggatt aaattcaagg 240
tcgacgaacg tgaggtgcta gggcttttag agtttggatg gaacccatgg acatcgttgg 300
caagtccaag gatgacgtct cgcttcccaa agcaaccatg tttaaaatta taaaagagat 360
gctgcctcca gatgttcgtg ttgcaagaga tgctcaggac ttactggtcg agtgttgtgt 420
ggagtttatc aatctaatat cttcagaatc caatgaagtt tgtggcagag aggaaaaacg 480
aacaattgca cctgagcatg tgctgagagc cttgga 516

<210> 447
<211> 396
<212> DNA
<213> Pinus radiata

<400> 447
gaaatatcac tattttggct tcagagtttc tgcaaattgc caaatatgga gaatgttccc 60
gagcaggaac ctgacaatac catttctctg ccacacgaag atcgcggttc ccgccaattt 120
aagggaatcc gactgcgaaa atgggggagc tgggtatctg aaatccggat gcccagatcc 180
agaaagaaga tctggctcgg ctcatacact accccctgagc aggctgcccg cgcttacgac 240
gccgcagtgt attgtctgag agggcgcaat gccgaattca acttttctgt gcccgacatt 300
ccgactgcgt ctcccctttc ccgtgagcaa attcagcatg ccgccgccga atatgccttg 360
ggcaaagccc cttccagttt tccctctttc gcaggg 396

<210> 448
<211> 946
<212> DNA
<213> Pinus radiata

<400> 448
ggggagacga gatctatcta ccgccccctt tgtattcatg gtctcgggaa acataacaag 60
ccctggtcgg atcagagagg ctcagacaaa gatagcggga atgaattagg ccgcactaat 120

ttgaatcccg gccaaatacc gcggcggagg acgaggacga ccacactccg gcctaaattc 180
gccgcctttt ttataattaa aaacataaaa aggccgacgc catgaacgaa ccagacgagc 240
acgccgctgc tcagctcgtg cagaagcgta gccacccgct ggcggaggtg gttatgccca 300
tctccgtccg tccgctggcg gagaaatgcg gcgtggaggc ggaggaggag aggaagcggg 360
cggcggagca caagaagcag cggtccaaga actggacgcg agcggagacg ctgaaactca 420
tccgcctgcg agcggaaatg gagccgcggt tcgcgcgcag cgggcggaag tcggagctgt 480
gggaggagat cgctgaagcg ctccgccgag agagcgtggt ccgagacgcg cagcgttgca 540
gagacaagtg ggagaaattg acggcgagct ataaggaagt ccgcgacggg cagcgcgaca 600
ggcaggactt cccgttcttt gacgagctgg acccgctgct atctctcaag cctcagaagg 660
cggcggcagc ggccgccgct gccgctaccg ccgccacggc ggcgaatttt gtttccgccg 720
agactcccag caattttccg actgacgacg agatgacgga agaagggtcc cctgctggga 780
agcggagaaa aacgactcca agaggcctct cggcgacgga cctggacgct gttcgtgagc 840
tcctggagag cctggtgagt cggcagcaga ggtttttcgt ggatctgctg gattccatgg 900
agcggaaaga ggaaatccgc gagcggattc gtcaagaaaa ggagga 946

<210> 449
<211> 1140
<212> DNA
<213> Pinus radiata

<400> 449
gctttatgga gttcatatca cgtacagcag ctgagaagat tatgcaaact tataacggga 60
cattaatgcc caacactgaa caagctttca gaatgaattg ggcatcattt agcatgggag 120
aaaggcgtct ggatggaggt ccagattatt ctatttttgt gggagatttg gattcagatg 180
tctcagattt ggtcttgcag gagactttcc aaactcgata tccatcagtg aaagctgcta 240
aggttgtcat ggatgcaaac acagggcgtt caaaaggtta tggatttgtg aggtttggcg 300
aggagagtga gagggcccga gccatgacag aaatgaatgg tgtatattgt tctactagac 360
ctatgcgaat cagtgcagcc accccaagga agtctgcagg agttcagcaa cagtattcag 420
gaagagcagg caatggtgga tctcatgccc aaggattccc gtcagacaat gataaacaat 480
acaactatat ttgtgggacg gctagatcca aatgctacag atgaagatct gagacaagtc 540
tttggccagt atggtgatct tgtgtccatc aaaatacctg ttggtaaagg ttgtggattt 600
gtccagtttg cgaacagggc ttgtgctgag gaagcattgc aaaggctcca tggtactgtt 660
attcgtcagc aaactatacg cctttcttgg ggtcgaagcc ctgcaaacaa gcagaattct 720
cagccacagg ggcaacagcc tcagtctgat ccaaatcaat ggaatggtgc ttactatggg 780
caaggctatg aaagctatgg ttatgccccc cctcctcaag atcctgcaat gtatgcttat 840
ggtggctacc ctggatatgg gaactataat cagcaggtaa gctagagtta caagtctcta 900
aagcttggtc acactaatgt tgcaagggct gtttatttgc ccttcaagtt ggcttcattt 960
gttttcagtc tggaggctgc aattgttttg ttttctttac caggtatagc aacgtatttg 1020
ctagttgtgt aagcacataa aaattattgc ttcatattca ggttttcatt atctgagatc 1080
aacatatatt ttccctagtt atattacata tttccttata attttaaaaa aaaaaaaaaa 1140

<210> 450
<211> 390
<212> DNA
<213> Pinus radiata

<400> 450
acatcatacc accgaccttg cttcaagtgc tgtcatggtg gttgtgtcat cagcccctca 60
aattatgttg ctcatgaagg caggctatat tgtaggcatc atagctctca actttttagg 120
gagaaaggta acttcagcca gctttcaaag gcaacaccta caaaaggggt gactgagaac 180
tcagacacag acgacaagtg atcattcggg ccagattttt gttgagagag ttgtagtgtg 240
taattgattc atttcataca tttgatatgc aagcctgtat caagcttatc gataccgtcg 300
acctcgaggg ggggcccggt acccaattcg ccctatagtg agtcgtatta cgcgcgctca 360
ctggccgtcg ttttacaacg tcgtgactgg 390

<210> 451
<211> 460

<212> DNA
<213> Pinus radiata

<400> 451
gagtaggagg cggcggcgga ggcaagggaa gcccgtacag aggcgtcagg atgagaaaat 60
ggggaaaatg ggtttctgaa gtgagggagc cgaacaagcg gtctcgcata tggctcggct 120
cctattccac tcccgaggcc gctgccaggg cctatgatac tgccgttttc tacctcagag 180
gaccctccgc gactctcaat ttccccgagg aagcacgtaa ggagcagcag agcgacctca 240
ggctttcgca gctcggggag ctctcaccgt cctctattca gcggagagcg gccgaggtcg 300
gcgcggccgt cgaccatgcc atgcaggcgg gcccggttcc tgctcagacc ctgagggaaa 360
taaaccaaga aaatgatatg aagaacgcct tgagctcaaa attgagcgag ggcaataatt 420
tcaagatcga agcaaaaaat aatatgaggc agcagggctt 460

<210> 452
<211> 1116
<212> DNA
<213> Pinus radiata

<400> 452
gtagatttaa atgctttttt gaaatccggt tactcgcaag attatcaatc gggactgtag 60
ccgaagcttt gagaggttga aattcagact tttgctccga actgttctgc tgaaacaaaa 120
tccagtattg agctaggttt agaatcgggt ttgctggtca tctgggagag gcgatccatt 180
cagcttcgca ggcccccgaa gatggcgttc gccggcacaa cccagaagtg caaggcatgt 240
gaaaagacgg tctatttggt tgatcaattg acagctgata attctgtttt tcacaaatcc 300
tgtttccgct gccatcactg caatggaact ttaaagctta gcaactattc gtcgtttgag 360
ggagttctat attgcaaacc tcattttgac cagctgttta agagaacagg aagtttggat 420
aaaagttttg aagccattcc tagagcatca agaaatgaca agatgcatga gaatgagaac 480
aggacaccta gtagggtatc agcattgttt tccggtacac aggataaatg tgttgcatgt 540
gggaagacag tgtaccccat tgagaaggtt gctgttgatg gtacatcata ccaccgacca 600
tgcttcaagt gctgtcatgg tggttgtgtc atcagcccct caaattatgt tgctcatgaa 660
ggcaggctat attgtaggca tcatagctct caacttttta gggagaaagg taacttcagc 720
cagctttcaa aggcaacacc tacaaaaggg gtgactgaga actcagacac agacgacaag 780
tgatcattcg ggccagattt ttgttgagag agttgtagtg tgtaattgat tcatttcata 840
catttgatat gcaagcctgt acaatagcct gtgactgtta agggcattct tttgtctccc 900
tgttgctatt tgggtttccg gtgtgttcat tttcacttat ttttgtgttt tagctggaag 960
aatttgagag ggtagaattg tgtcatcgct atggcttgtg catgactcat gagccagcag 1020
ttgagacttt tatttattag ttatagtact atatctagtc gagttctcaa taaaagatag 1080
tgttatgctg ttgggcagca aaaaaaaaaa aaaaaa 1116

<210> 453
<211> 439
<212> DNA
<213> Pinus radiata

<400> 453
ccggttccta gttcgaatcc ttgccctaac gcagtcccgt gttttaagac tcaatcttta 60
gtgactcccc cgcaacatgg ttaagccctt gccaaaacag agcagcccga gcggatcgga 120
aaactgccaa ataaagtcgc ggcagttcaa aggaatccga ctgagaaaat gggggaaatg 180
ggtgtcggaa attagaatgc cgaattccag ggccaaaatc tggctgggct cctacgactc 240
cccggaaaaa gctgcccgcg cctacgactt tgcgttgtac tgtctaagag ggtcgaaggc 300
cacattcaat ttcccgact ccccgccgga aattccatgc gcctctgacc tgtcgccgcc 360
gcaaattcaa gccgccgcgg ccaggttcgc tacagaagat ttccggctgc cgtcggaaga 420
ggacgcggcg tcctcctct 439

<210> 454
<211> 481
<212> DNA

<213> Pinus radiata

<400> 454
gcaattccta gtctcatttc agtgattcac tcactgaaat tattgttaga atcactgttt 60
tggccccaga gcttctgcgt cgccaaatat ggagatacgc ctccagcagg aaaacgacca 120
ggacattgct ccgccacacg aagatcgcgt gtcccgccaa tttaaaggag tccgaccgcg 180
taaatggggg atatgggtat cggaaatccg gatgccgaga tctcgacaga aaatatggct 240
gggctcgtac aaaaagcccg agcaggccgc ccgcgcctac gacgccgcag tgtattgtct 300
gagagggtcg aacgccaagt tcaatttccc caattctgtg cccgacattc cgtctgcgtc 360
ttctctttcc cgccagcaga ttcaactcgc tgccgccaaa tatgcgttgg atcagtcccc 420
ttcaagcccg ccgtctctga acaataataa agaggaaccc gcgtcaccgt cgcagtcgtc 480
t 481

<210> 455
<211> 382
<212> DNA
<213> Pinus radiata

<400> 455
ctcccacctc catttcactc tgccgagtcc attactctcc ctatcgtcga accacgtctt 60
tctcatcgac caacaatgac tcagcagaca acctcaccaa cagttagtcc cgccgcactt 120
gctcttccca cttctgcctc atccacatct gcaaagtctg cagctgttcc agtaccagcc 180
caagccaacc ctcgcaaacg tcctcgttcg gatctctccg cagaggagaa gcgagaggct 240
cgtgctcatc ggaacagaat cgcagctcag aactctcgtg acaaacgcaa acagcagttc 300
actagtctcg aacaacgagt catcgacctc gagaacgaga accgccaatt acgagacgct 360
ctcgccactt cgcagccgaa cc 382

<210> 456
<211> 201
<212> DNA
<213> Pinus radiata

<400> 456
aacttctgac tatttttgaa gctgtatatg tacataaagg gatcgttaat gcagcgaaag 60
tgcttaatct gaccccctcg gcaatcagtc agtctattca gaaactgcgc gttatattcc 120
ctgacccatt gtttattcgc aaaggccagg gtgtcactcc taccgcattt gcgatgcatc 180
tacatgagta tatcagtcag g 201

<210> 457
<211> 435
<212> DNA
<213> Pinus radiata

<400> 457
gctctgggga cttggtgttt tctcccaatc ctaaaactaa atgttattat ctgaaatagg 60
gaaacaagat tacagcagca gcgaaggaca aatgaaaggg ccgcagggga ttagcaatgc 120
tcaaaacact tgtaccaaat tccgaatgcc aacatcagag aacttgattc ccattcgcct 180
tgatattgaa attgatggac tacgtttgaa ggatgcattt acgtggaatg taaatgatcc 240
agattcagag attcatttat ttgcaaggag aaccatcaaa gatttgaaat atccgggaag 300
tttcataaca ccagtagtac aatctattca agcacagtta gcagagtttc ggtcatttga 360
agggcaggaa atgaacacag gacaaaaagt gctccccctt aagcttccct aaaatttagt 420
atatatatcc tcctt 435

<210> 458
<211> 654
<212> DNA
<213> Pinus radiata

<400> 458
aaagctagat aacgtttcgt tttaaataca gcgcggccga ggcggccggt cagtcaacgg 60
ggtttctagt gcggtcgtct atattttcta ctctcctttc cactctgcaa aatcagacct 120
tcatccattc cccacggcat tagattcaat ccattctatt aggctccttt aagcgaggtc 180
gcgggttcga acccgatcga atgatgcgaa ttggataccg tttggtgtag aattctgata 240
gatttcgtgc gatggagggt tcacagaacg gcagcagcaa tgcaccgccc cctttcttaa 300
cgaagacgta tgatatggtg gacgacccgg ccacgaatgc tatggtgtca tggagccccg 360
gaagcaacag ttttattgtg tggaatccca ctgaattctc ccgtgttctc ctccccactt 420
actttaagca cagcaacttc tccagcttcg tcaggcagct gaatacatat ggttttcaca 480
aaattgatcc ggaacggtgg gaatttgcaa atgaggggtt tctgcgaggt cataggcatt 540
tgttgaaaaa cattcacagg cgcaagcctg ttcatagcca cagtcagcag aaaggagaga 600
gtttgtctgg aggatcatgt gtggaaatca aacaacttga agatgagact gaga 654

<210> 459
<211> 675
<212> DNA
<213> Pinus radiata

<400> 459
aattgaatcg gccatggttt tgtatgaatt gttacatgta cagcagattc agcaaataca 60
gcagcagcag tttcaattgc aacaacaaca aatagcagca gcggcttcaa tccaccatat 120
gggtcgaaac cctctgggtc ccagagatca gcccatgaaa cttcatggca gcagcctatc 180
aaagccggct aagctttaca gaggcgtgag gcagcgccac tggggtaaat gggttgcaga 240
gatcaggtta cccagaaaca gaaccaggtt atggctgggg acttttgata ctgcagagga 300
agcggccatg gcttatgaca aggctgctta caggctgagg ggtgactatg ccaggctcaa 360
ttttcctcac cttaaacacc atttggaagc aaattccttc gccccctgga ctggtaattc 420
tgtgctgcca tcgtctgtgg atgccaagct acaagcaatt tgccaaagct tgaaacaacc 480
tttggaaagc atgtctaaga ccgaagaatc agaagaaatt tcatgtgcat atgagaattc 540
gggctctctt gggtcggtgc gggatgaaga tgcgaagaag aatgatgttg tctctgtcaa 600
gtccgagact tgtgattctg atagtagtga tgattccacc attacagcgt tgaattcatc 660
tggggatcag aatcc 675

<210> 460
<211> 1014
<212> DNA
<213> Pinus radiata

<400> 460
cccggataga agcccccggt cggagaacga atccggcggc ggtcacatgg gcggcagcgc 60
atttctctgt gaaagagcag gatcggttcc tgcccatagc caacgtgggg cgcataatga 120
agaaggccct gcccgccaat ggcaaggttt cgaaggatgc caaagaaact gtgcaggagt 180
gcgtctctga gtttatcagt ttcatcaccg gcgaggcctc cgacaagtgc caacgggaaa 240
agagaaagac gatcaacggc gacgatctgc tgtgggcgat gacaaccctg gggtttgagg 300
actatgttga gcccctcaag atctatctcc acaagtacag agaaatggag ggcgagaagg 360
tctctatggc caaacaagga gacccgactc cttccaagga aggtaacaac gccattaatg 420
gctcctcaat tgaaaaccct aatgctaatg cctacagtgg tttgaacccc ggcggttata 480
atagggtaca gtcgcagtct ctgccacata tgcagcaggc tgcctatggg caaccgccag 540
gtggaatggt ctatggccac cacggccaca ttatggggc ttacaatatg accgccccaa 600
atagcagtgg tggaaatagc agtggtcagc aacagcagca agcccccaga ggccaatggt 660
agaaatattt actttttctt ttctgttttt ctaattttta cgggtcatgt ggggacagct 720
ggtgccttag ttaaagtaga atggcatcac caacccaacc aattctttac tagtttttgg 780
ctgaaatgat tccatctctt gcatattaaa gaagcccctc aagctcagga ggggactttg 840
aagtgctaaa gaagtctctc aagctcagaa cactggaaaa atgggcgggt tgttgttact 900
aactgttctg taaaaattta ccagaaatgt tgttcaaact gtctgtattt agtaggtact 960
gaatcttagt gaatctgctt ctgtatatct attttcgctc catttggaag atag 1014

<210> 461
<211> 301
<212> DNA
<213> Pinus radiata

<400> 461
ggctgcacca ctgtagtaga aactttagcc aagtggcagg agctgaacag ccaggtggaa 60
agctcaaaag atggcgcgaa aagactcagg aaagcccctg ccaaagggtc aaagaaaggt 120
tgcatgaaag gaaagggtgg tcctgataat ggacgttgca actatagagg agtcaggcag 180
agaacgtggg gaaaatgggt tgcggaaatc agagaaccga atcgtggaag tcgactgtgg 240
ttgggtacgt tctcttcagc ggaggaggca gcacgtgctt atgatcaggc tgcgagggtt 300
a 301

<210> 462
<211> 384
<212> DNA
<213> Pinus radiata

<400> 462
gttcagaggg taagtgaaga ttcgaaaaac aatggagatt gtggggaagg ccaaggaaga 60
tgtttcactg ccaaaagcaa ctatgaccaa gatcatcaag gagatgttac cagcacatgt 120
tcgtgtaacc agagatgctc aggatcttct agttgaatgc tgtgtagagt tcatcaattt 180
aatctcgtca gagtccaatg acatatgcta caaagaggag aaaagaacta ttgcaccaga 240
acatgttctg gaatctctaa agattcttgg ctttgggagc tatattaggg aggttaaagc 300
tgcttatgag caacacagga ttgagaattg ggattgtcca agagcaggaa ctagatggag 360
taaaaacaga ttggaaatga caga 384

<210> 463
<211> 484
<212> DNA
<213> Pinus radiata

<400> 463
gaatatcaat ggggttgctg ggggagttgc caaagagaaa aaggtaaatt ttccatggtg 60
tgcattggaa aagcaagtag ggacatcatc ttttgatcca aatttggctt ctagcaaaca 120
agcaatggat agtctaatca tgcagcaact gcctaccttc ctccaatatt gcaaagatct 180
agaagagggc agacagtcat ggtttatgca caagaaggaa gctacctgga ggctcagtcg 240
gcttgagcag cagcttgaat ctgagaaagc tcgcaagcgg agagaaaaaa ttgaagaggt 300
aggttcaaaa atacgtgccc tcagggagga agaaataaca tatcttgaca aactggaaac 360
tgagtgcagg gagcagcttt ctagtctcca aagggatgcg gaaatgaagg aggctaagat 420
gatggaattg tgggctacca aacatctgca gttgacaaaa ttcgttgaca gtgctttatc 480
agtt 484

<210> 464
<211> 1434
<212> DNA
<213> Pinus radiata

<400> 464
atggttttag gttttaaatg tagagcagga cgtgcctact tttgcttcat ttatgcatat 60
gtcttttgtt gtcactattc gtctttaatc cccactttgc ctgcctggag agaagaggag 120
aggaccctgc cctgctattt ggccttgtga gcgattcagg agaaatgggg tggcaacagc 180
agcaaggagg agagaatgaa aattgaataa aacgaaggat ctgaatcccc cttgcgcgca 240
agcaatggct cgagagacca attcttttgc cctactgggc ggagatgacg accaaggcga 300
tgatgatctc atggcactca tcaacagcgc ggccaccctc aagccagaaa agaagcccaa 360
gactactgcc aagaaaaacg gccagcagca gccgccgccc ccccagtctc agcctgctaa 420
acttccttcc aaaccccttc cgcccgccga agccgtgagg gcggatagag gaagaggaag 480

gggcgggcgg ggccgcggtg gaggccgtgg cagccgcttt gagggcggtg aatacaacac 540
cgagagcaac ggatatggtg gtgggggcgg ttttggaggc ggccgaggct ggggtcgcga 600
tgaggactct gggaaccgag gttggggtcg tgaagaggac accggaggcc ggggttgggg 660
tcgaagcaac ggcgaagagg acaccggtgg ccgaggttgg agtcgaagca acggtgagga 720
cgacgctgct gcaggcggag gacagagccg cggcagagga cgtggacggg gcaggggccg 780
aggctttggt ggtcgtggta gtggacgctt cggtggaggc ggcgacagct atggctacga 840
tgccaatgga caggaccgcc ctccccgtca acagttcgaa gacaccaata ccttcacagg 900
cacagacaac tgggataccc ctgaagtgtc agtcgttgat gaagctaaaa atgtggagcc 960
tgaacagaag aaaccagaag aagaggctac accaggggtt acctctgaaa ataaagataa 1020
caaagaagag gaggacaatg aaatgactct tgatgagtat gagaaattat tgaatgagaa 1080
aagaaaaaca ttggaagctt taaaaaatgc ggaaagaaag gttattctgg acagagattt 1140
tgagaaaatg cagcttgttg ataagaaaaa tgatggcatt ttcatcaaac tgaactcaga 1200
aaaggagaga caaagaaaga aggagaccct tgaaaaagag gaaagagccc gtaagtctgt 1260
gagcataaat gagttcttga aaccagctga cggtgagaga tattttaccc catctggcac 1320
tcgtgggcgt ggccgtgggc gtggacgagg ccgtggggac ggtgttagca ctagaggagg 1380
ttttggaggg aggtacagtg atgctgatca ggttgctgct ccttgcattg aagg 1434

<210> 465
<211> 364
<212> DNA
<213> Pinus radiata

<400> 465
acacatgggc acaagaagaa gaaaagagcc cacgagccat tggggggggag aaaggtggga 60
ggggacttcg ccagttcagc atgaaagtat gtcaaaaggt cgagagcaag ggtcggacca 120
cgtataatga ggttgcagat gaattagttg cagaatatgc aaatcctaac agtgcgctca 180
tttctcctga tcagcaacaa tatgatgaga aaaacataag gcggagggtg tatgatgcat 240
tgaatgtact gatggcaatg gacatcatat caaaggacaa gaaggaaatt cagtggaagg 300
ggttacctag cacaagtcct aatgaccttg aagacttgaa ggcaaagcgc atgggattgc 360
gggg 364

<210> 466
<211> 237
<212> DNA
<213> Pinus radiata

<400> 466
gtcctatgaa gctttacaga ggagtcaggc agaggcactg gggtaaatgg gttgcggaga 60
ttcgcctccc acgaaaccgg acccgcctct ggcttggcac cttcgacaca gcagaagatg 120
cagctctagc atatgatcac gaggcttaca aattgagagg tgagaatgct cgtctcaact 180
tccctcatct gtttttaaac aagggatcta ccagccctaa agcttgttca gttgcgg 237

<210> 467
<211> 578
<212> DNA
<213> Pinus radiata

<400> 467
tctttctcgt gccgaattcg gcaccagaca gaaccaaccc taattttgat agacacagca 60
gggtgtgata tggaggagaa aaaagatgac gaggacagca caatgaatga aggcgaggca 120
acagtgacac taatgcatgc aaaaaaactt ctagaaagtg gagttaatcc ctctgatatt 180
ggcatcatta caccttatgc agcacaggtt gggctgttaa agataatgag aagcaaagag 240
atgaagttga aagatttaga aatttctaca gtcgatggct ttcaaggccg agagaaagag 300
gcgatagtca tatcaatggt ccgttctaat gcaaaacacg aggtaggttt tctaaatgac 360
cgcaggcgaa tgaatgtagc tgtgacacgt gcacgtagac aatgttgtat tatttgtgac 420
actgaaacag tgagcagtga caaattcctg aaacgccttg tagagtattt tgaggagcat 480
gcagagtatt tgagtgcctc ggaatatctt acttgattgt gacagcttga aaatctgttg 540

cctacaataa cccatgatac actgagacta cttttttt 578

<210> 468
<211> 432
<212> DNA
<213> Pinus radiata

<400> 468
gcgctcctta cggttctacg catggtattc gagcttgcga cgcgcccact ttcttgcgag 60
ctcattctgt tcggcctcag aagggtctgg ccggccaagc ttgagctttt gtatggctga 120
agctgttgcc atgtttaacg tgataatgag aaaaatgctc agaccaagtg tcaggtagta 180
cgagctcgtg ccgaattcgg cacgagctgg gatacagtag aagtgccaag agatgtaagg 240
agaagtggga aaacatcaac aagtatttca ggaaggccaa agagagtaac aagaaacgtc 300
ctgagaatgc caagacctgc ccttactttc accagttgga tgctttgtac aagaagagaa 360
atctgggcaa caggcacaac aaaattatgg tcctgagtat tttctctgtt gcttccactg 420
ggctgttcat gc 432

<210> 469
<211> 657
<212> DNA
<213> Pinus radiata

<400> 469
gtttttccgc aggaagtttt gatttgagta ggaaatcctt tggcctcctg gagctttgat 60
ttgctcagga aaccctagcc cttcggttcc tgaagctttg cttttcgtag gaaacccttt 120
ggcaccggta ggcgatggct cccagcaaca acagaagaga cgacaatgga gcacgaggag 180
ttcacttcag ggcgtcagg aagaggccct ggggtcgata cgcggcggag attagggatc 240
catggaaaaa agttcgtctt tggctcggca cctttgacac ggccgaggaa gccgcccggg 300
cttatgacac tgccgctatc tccctcagag gtccgaaggc gaaaacgaat tttgcatact 360
cctcgccgtc ctcctcatca tctctgcaca ataatcagag cagtagccaa aacagcagca 420
cggtggagtc ctggccctct gcggcccctg tgactcgatc cggagacctc gagcttcccg 480
cttcttttct ccctcgcctc ggagtttcca ccgggcggcg ggttttaaat ggtggaaacc 540
cccggtccgg gcgccggcgg agtctttcgg agaaaaacag cggcagaaaa gctgaaggcg 600
ccgaggcgcg aaccacccta agcgattctg attcttcttc ttctgcggtt ctagacg 657

<210> 470
<211> 581
<212> DNA
<213> Pinus radiata

<400> 470
gtccagcaac agcagcagca gcatcagcag catcagcaac aattactgca gcatcaacag 60
cagcagcaga tggcagatgc tgctgctgca atctatgcct catctgtaaa gaggcagggt 120
aatgggacaa tgatggggca gggtaatgga acaatgatgg ggcagggtaa cggggcaatg 180
atagggcagg gtaatggggc aatgataggg caaggtaatg gggccattga tgggatcacc 240
ccttggagga ggacttggtc tttcccctag aatgggtgga gggattggga atggcctaca 300
aggaggattg gggtgggct tggcgggtct cggagctact gcgcttacca ttggagcagc 360
atctcccgcc aaccagcttt cttctgatgg tatgggcaac agccatggag acaactcaac 420
agtatcgcca attccttatg ggttggacgt aagtgtaaga ggcaggaaaa gaggtggacc 480
ggtggagaaa gtagttgaaa gaaggcagag acgtatgata aagaatagag aatcggcagc 540
aaggtcgcga gctagaaaac aggcatatac cgtgaattgg a 581

<210> 471
<211> 451
<212> DNA
<213> Pinus radiata

<400> 471
ccaaaatgga gattgagaaa caagaggagg atcctctgga gattttctgc ctccaccccc 60
gacaactaaa tgctcagagg agctgcagaa taagatcacc aaatatattg ctttgaaaag 120
tgctggaaga agcttcaaca aagaactacg caattcaaag ggatatcgta atccagattt 180
cttgcagcgt gctgtgaagt accaggggat agatcaaatt ggtagctgct tcaaaaagga 240
aatatttgat ccacatggat atgatccgag tgactattac gatgctttag ctttggagct 300
caagagagaa tttgaaagaa gagaacaaga gaagcaaaag aatcaaaggg tagattttgt 360
tcatggagct gtacaaacta catcggtaca gtcagtatca aagccaattg tgcaggtcat 420
gggtggtcaa aaggtgcctg ttgttggggt a 451

<210> 472
<211> 1286
<212> DNA
<213> Pinus radiata

<400> 472
gacgttcctc tttactttta caacttgtac cgctggccat gaaaacagcc ggggagatct 60
gaaattttcc actaaagttt gtttttttgc tggttctcgc ttgggcctcc ataggaccta 120
gctggacacc tcgaatctcc tccggtcatt ttttgttttg acagggccgg tttggtgatt 180
agggtttcag ataacaggag gacaagtgtt cgaattcgag agaagccaga atgagctctc 240
cgcagagcaa taagtggctg tcatatttcg acgagccatt gttggatgat gtaggcgtgg 300
ggcagccggc caatccattc ttctggtgcg gtcagggcat aaatgatcag cccgacgtaa 360
gtgtagaaat tgatggcccc aataaggaca tggacgagca agataaatta tgtcctagaa 420
agaggtcacg ggaagaatct agtggtggac ctgggtcaaa agcttgccgt gagaagatgc 480
ggagggacag acttaatgat agattcatgg agctaagctc tgtgttagaa ccgggtaggc 540
ctcccaagac ggcagacaaa gccacaattt tgtctgatgc tgcacgtgtt atgacccagc 600
tacgaactga ggcgcagaac ctgaaagctg agaatgaacg actgcaggaa gccattaaag 660
atctgaaggc agagaaaaat gaacttcgtg atgaaaagct gagaatgaaa gcagaaaagg 720
aaaaattgga ccaacaagta aaagcaatgg ctttgcctac aggctttgtg ccgcatcctg 780
cagcatttca tgcggctgct gcttttgcag cccaaagtca agcagcagca aacaaaacta 840
tgcctgttcc aggatatcct ggaatggcaa tgtggcaatg gatgcctcca gctgtggttg 900
atacttccca ggatcacgtg ctaaggcctc ctgttgcttg aagcaggctc ttattttata 960
ttccaaactg gtgctactat ttctttggcc ctcgaaacga ccttagtttc tttggtatcc 1020
aagttttaga tgctaggtgc cattgcatca gttcaatatt ctaatttttt ttatattgtg 1080
ccatagagat aattgaggat aattacaatt catcctgatg atgaaatgga ttaactgctg 1140
tattatgaaa aattacactg gagctttgca gaacaattat taatcctttg ttcatggtca 1200
tgacatgtct tgaactggag atcgctcgaa cacttacagt tggtataaac atcttgacat 1260
ttcgttcaaa aaaaaaaaaa aaaaaa 1286

<210> 473
<211> 1358
<212> DNA
<213> Pinus radiata

<400> 473
caaatttcca aaaccccagc cccccacgtc aaagtgatgt gaagggacaa atcccttgaa 60
caaattttca aatgctattt atatatgaaa tgacggtgga gcgagagcca cgggaagtag 120
cgggtagaag gcaggggtat aggctttttg ggctgtgtct gtcgcttcga gacgacttct 180
cattggagcg aaacgcctct cggcatttgg gtcagtgaac caacgaacgc tggcttcaag 240
gttttcgttt tatctttctt atttcacttc cttggattta gtttcctttc gatcctgaaa 300
ccgattcatt gtgtgagttt tccgcgaatt aactgatcag ggtttcggcc tctgtatcaa 360
atgttttggg gagcttttct ggtttgaaat gacgaggccc acatggcgaa atcactgttt 420
tccctaagct gaatgactac aacccatctt cagggcatct ataactgtaa atttcgatac 480
ctgggtcgat ccgtgtgcga ccctcgtccg agaaaagaga gcacagcagc attggtaggt 540
ctcggtttca atacacagct ggggaagaat ttcaaaataa aacgcaagcc tcgggtttgg 600
gctccagagg cacacacgac aataatacat cataggagta gcggcgtagg tcgtgtgttc 660
aaaccccatc cagggaaaat accgtgaagc tcgcttgtcg caagttcgac tgacatcgac 720

tgaattgcat ttcttagtcg gcaaaaatat taaagagtca agacaaagag ggggttacgg 780
gagcaggctg cgggttcgat cccaagataa ggaaaaaaga aagaaaattt catgaattgg 840
gcctgtaggt tccagtcaca aaattaaaac ctatcggtct cgtcttcgag ctaaagttgg 900
ggaaaaaact aagctctcag ggaatgggtt cccgcacaat gctgtcctct aatggtggcc 960
ggacacctca gttccaacca ctcgttcgtc agaattcttt atacaattta acgctggagg 1020
aggtccagaa ccagctcggg gacgccagca agccgcttag cagcatgaac atggacgagc 1080
tcctgaagaa catttggaca caagaagaaa gccaggctat atccatggcg atcggcaatg 1140
ggcccatgaa cggtgttcct cccaactctg cccctgccag cggtggtttg cagcgtcagg 1200
ggagccttac aattcccaga actctcagcc gcaagactgt ggacgaggtg tggagagata 1260
ttcagcagag ccagggaaag agtaacgaag agaagaagcc gcagcagagg caatccacct 1320
ttggtgaaat gaccctggag gatttcttag tgaaagcc 1358

<210> 474
<211> 517
<212> DNA
<213> Pinus radiata

<400> 474
atatggcttc aggaaacgtt gatccagatc aatgggaatt cgcaaatgaa gattttctcc 60
ggggacaaag gaatttgttg aaaaatattc acagacgcaa gcctatgcac agtcattctc 120
agaatcccca acaaggcgta tgtaatgatg ctataaaata tgaactggag gaggaaattc 180
agaggctcaa gagggataag ggtctgctca tgatggagct tgttagaatt aggcagcaac 240
atcaaggtac cgagatgcat atgcagacct tggaggagcg tttgcaagcc atggaacacc 300
gccaacagca aatgatggca tttctggcca aagctgtaca gaagcctgga tttgtggcac 360
agcttgtgca acagagtgaa aacaataagc ttcttgaagc agctaataag aagagaagat 420
tacccaagca agagaactgt tcagaggctg ggaaactga gttgacagac agtcagattg 480
tgaagtatca acctgcttca ggtgatgaat gtagtgc 517

<210> 475
<211> 337
<212> DNA
<213> Pinus radiata

<400> 475
gttgctgctg cttctgcttc tgcttctggt actgctgttg ctgcgtcttt gccagtgaac 60
ggtgctgctg ggtcagatc tagtgttgat tcggagcatt cggatataga ggcgtctttt 120
aaagaggccg aatgcagtca ggccattgtt gaaaggaggc ctcggaaacg ggcaggaag 180
cctgccaatg gtagagaaga acctctgaat catgtagaag ctgaaaggca gaggcgagag 240
aagttgaacc agaggtttta cgcactccgc gctgtggttc ccaatgtgtc caagatggat 300
aaggcctctc tgttgggtga tgccatttct tacatta 337

<210> 476
<211> 362
<212> DNA
<213> Pinus radiata

<400> 476
caatatcata tcccaactca cgaaatagac aatctctttt tatgatggtc aatgataaag 60
aaaagtaatg gtagattctc gtaaccaata acctttaat agctgccaat gagtccaaat 120
tcattctgtc gatgcaatat tgactgtatg cagaagaatc gagcactgtc acgcatctcc 180
aataccagca aagtattctt gagaatgact tgaggtcgaa actgaaggat aatctccaac 240
agccacagaa ttctgggaag aagagacgct atagaggcgt aaggcaaaga ccgtggggca 300
aatgggccgc tgagattcga gatccaaaaa aagcagctcg agtatggctg ggcacctttg 360
ac 362

<210> 477
<211> 612

<212> DNA
<213> Pinus radiata

<400> 477
agaacatggc caagcacact gtctgcgcct cttttctcaa cgaaggagac ttcatttgcc 60
ctccttacga agatggaatt ggtctagaat ggctgtcgga cttcgtggag gattcctttg 120
cagctacagg aagttcgaat tctggttcct tggctgactt gtctaaggac aaaatcgacg 180
acaacaggga gaagaagaag cagaacccaa ccgatgaagc gataatccct gaaataccgc 240
ctataaagga gactcccagg tcacagaggg cggtgcccgg gcgggctcgc agcaagcggc 300
gcagaagctc aggagcccca attcgcggtt ggtctacttc tgaagattac gcattgcaga 360
atgagggcgg catgaaaact gtaacaggag cggacgctat aaatcattac cagtcctcgg 420
cgccccagca gcagccaagg cgctgcactc attgtctcag ccagcgaacc ccgcagtggc 480
gattgggccc gttgggtccc aagaccctgt gcaatgcctg cggtgtgagg ttcaagtctg 540
gcaggctctt ccccgaatac aggcctgcca agagccccac tttcattcga tacattcatt 600
caaattccca ta 612

<210> 478
<211> 680
<212> DNA
<213> Pinus radiata

<400> 478
tggaaatgct gccaggcgtc ctcatgatgt gcttttgaag ttagaaaagt tgagttcaca 60
gacaacgctt gaatcactac aaagactcat cgttcaaaag aaatgtctcc tttttggcaa 120
aaaggtagga ataagaattg acggaaagaa gaccgcaaat acagaaaaag tgaatgaacg 180
gaacacaata ccaaggatca tttttggggc attaacattt acaagaaacc gccctcatgc 240
attatctaaa aatggaagca tagccgacac aagaagaaat atatgtggtg cacctcaaga 300
ggatggaacc atttgtacag ctatccctct taaaagcaga aaacggtgtc ctgatcacaa 360
gggacaaaaa ggccagaaag agaaaaattt atcaaaaatt aacatcagtg caaacgttga 420
atcaaggaac caaggagttg ggaacatga aaatgaatat agatattgtg gagtccttct 480
taaagatgga tcaacatgca agattatacc cgataagggc agaaagcggt gtaatatcca 540
caaggggatg cgcattcctg gccaggcaaa ataagcattt ttatctggat cagaaagtgt 600
taatgttcca gaaatcagat gttagagtgc agaagagaaa ttacctactc ctaaggaatg 660
taatcatact ctaggttggc 680

<210> 479
<211> 544
<212> DNA
<213> Pinus radiata

<400> 479
gttttatatt ttaagtggaa aatagcttgg ctggctaggg tttcagtata taaaaccctg 60
gttgtttgag ggcgtaata cactcagttg atgttctagc gcatagatat atacacagac 120
tgtgagcttt attctctgtg aacattctgg gcaatgctac tgagtctcag accgcggaat 180
taatacagat ggcgctgaag gagaaactcc tatcataaat atataaaaag gatttgtttt 240
tgacagtgga acagagccag ttcaaagcag gcggcaatgg caacttccaa tccgtttgat 300
ctgctcggcg atgacgacaa tggcgatgtc tcgcagctcg tcttcgtccc tcaggagaag 360
ccgactgtta aaaggcctc tcagcctgct caaacggcaa cggccaagct cccgtccaaa 420
cccctacctc cggctcaggc tgtgagagag tcgagaaatg gagtgggcag aggaggtcga 480
ggcgggcgag gaggagaccg caatcaagat gtgggctatt agcaatcgtg gccgtggcag 540
cttc 544

<210> 480
<211> 971
<212> DNA
<213> Pinus radiata

<400> 480
ggaagttcta ggtcacacac cggagactct tgagaagtct tcagacaagg tgtggagagg 60
taaaggagtg cctggtgcgg gacaggaacg cctctgcaag atgaataggg agaagcttat 120
gaagatggct ggtgctgttc gcactggtgg gaagggtacc atgcgcagaa agaagaagac 180
gattcacagg acaacaacta cagatgacaa gaaacttcaa agtactttga aaaggatagg 240
agtgaatgca atacctgcta ttgaagaggt caatattttc ctggaggatt ctgttattca 300
ttttcaaaat ccaaaagttc aagcttcaat tgctgctaat acgtgggtgg tcagtggatc 360
tccacaaaca aagagacttc aagatcttct tccagggatt atcaatcaac ttgggccaga 420
cagttttgcc aacctaagga agcttgcaca gcaatttcag aaagaagttc ctcatcctgc 480
tgttgaagaa gatgacgatg atgtgccaga acttgttgaa ggagagacat ttgaggaagc 540
agctaagcaa gaatccgctg cctaactgag ttgagctttt ataaacgatt gacagttaag 600
ggagcactca ataatgtgtt ttgaatgtga tattagttat aagtatattg tattttactg 660
ttaaagtaaa actatcaggg gcatcttgtt attatgatac agttcaaatt ttgtttttcc 720
tttccccttg tctcataaat ttttcttcat gcaagtggat tcctgtgaat gcaagattgg 780
tttgaattat gcaaattata gatttgtttt tgacttcgat tctgttatgg taaggtcttt 840
tcccccctcc agtgtatggt taaaatgttg tagtacaaac aatgtcccca attagctgct 900
tcttgcttgg aattgtgcat gcgttgcacc ttttggtatt aaaatttttg cttgtctata 960
aaaaaaaaaa a 971

<210> 481
<211> 710
<212> DNA
<213> Pinus radiata

<400> 481
cttggagctg cctgctgaag tctttgatcg ctgtaagtct gaggttgaga ttaatcaggg 60
gcttggcaga tttggtatca ggtagaagct agagggtctc tagtaatcga ctctgcgcag 120
tcccagagag aaatgaaaat gaatctcgac cttttgtaga agagtttcct atatctgacc 180
ccggatcgag gctatagcga atgaggaaaa tgagcggccc gagttcaata gcctgtttgc 240
cagagttgat agttccaagg atccgttggc gatgatttct attctccccg cgtagtcggt 300
gaacttatca ttgatcccat ggagaacaaa acagatcaaa tagtagccgg gcagaaacga 360
cgcagagatg aactgcagat gaccacactg gcaacgcatt gcttcaaggt ggacgatatt 420
gcttgccaga cttttcctgt ttcatcctct gaaggtgaat gaacaatacc ctcaatcttg 480
tatcgcattg ttgatgttat gtagaagtac caagcataac catgccacac caacaccagc 540
accaggaacg ttttccttca caagagggaa ttagctggaa gagagatgat gaactcccac 600
agccacagaa tccaccaaaa aagaaacgtt atagaggggt aaggcaaaga ccgtggggaa 660
aatgggccgc agagattcgt gatcctaaga aggcagctcg agtatggttg 710

<210> 482
<211> 1240
<212> DNA
<213> Pinus radiata

<400> 482
attcccaggc ctggttaagg agggcggggg ttacatcagt gcaggtgggt ttgatagaag 60
cggcggagac ggcttttggg agaggatatt agctggccgc tgtaaaaagt tagtggtggt 120
tatggcttat gctgaaaatt tgaggaattt tggttttggg gccaataatg gtggttctaa 180
tcagagcaat agcagtaatg ggggtgtaga tggctattct tcgatgtcca atgagggagg 240
gcttgttatg ggacagattg gcggtccaca tggctacccg aattcttcac caagtgctca 300
agatgcgcta tacgaggagc tgtggcatgc ctgtgctgga cctcttgtta cgctgcccag 360
gatcggggag cgggtgtttt atttcccaca aggtcatatg gagcaggttg aagcatccac 420
aaaccagggg gctgatcagc acatgccatt gtttaacctg ccctataaga tcctttgccg 480
cgtaatcaat gttcaactga aggctgaacc tgatacagat gaagtgtttt ctcaaattac 540
cttgctccca gaggcagagc aggatgagtc gtctgttgag aaggagcctc taaccccact 600
gcctccaaag cctttagtat actctttctg taagaccctc actgcatcag ataccagtac 660
ccatggaggg ttttctgttc tcaggagaca tgctgatgaa tgtcttccac ctctggatat 720
gagtcagcaa cctccatctc aagatctggt ggccaaggac ttgcatggag ttgaatggcg 780

gttccgacat atctttcgcg gtcagccaag gaggcatttg cttaccactg gctggagtgt 840
ctttgttagt tctaaaagac ttgtggcagg agatgcattt atctttttga ggggtgaaaa 900
tggtgaactg cgtgtgggag ttaggcgtgc catgcgccag caaaacaatg ttccatcatc 960
tgttatatcc agtcacagca tgcatcttgg tgtcattgca actgcatcac atgcagttac 1020
aacgaagacc atgtttagtg tctattataa accaaggaca agcccatcag agttcataat 1080
tccttatgat caatatatgg agtcaatgaa aatcaatttc tcggttggaa tgagattcaa 1140
gatgaagttt gagggggaag aagtcccaga gcaaagattt actggaacca ttgttggaat 1200
aagtgatgct gatcctgtga actggccgaa ttcaaagtgg 1240

<210> 483
<211> 516
<212> DNA
<213> Pinus radiata

<400> 483
ttcagatcta taaatcaatg tctgcattaa tgacaaacta agttgaaatt cccaaatgtt 60
ggtggttact atttaggatc ggacattagg cgttgtggtc tcgggttcga ttcacaaggc 120
atttctgttt cggaatttca aagcaacacg tatcagaaaa ctgattctat actgtgatga 180
cgcaggctac taactacaca gcaggtacca tcagagacga tcaagaggag caatgtgtga 240
ggaggggacc ttggactgtt gatgaggaca tgagccttat tcgatgcgta accacccggg 300
gtgaaggtcg atggaacaca gtagccaaat ttgcagggct aaagagaaca ggaaagagct 360
gcagattgag atggcttaat tatcttcggc ccgatgttaa acgtggaaac ataacgccgg 420
aagagcagct attaatcctt gaactccacc gtctctgggg taacagatgg tccaagattg 480
cacggcaact cccaggcagg actgacaacg aaatca 516

<210> 484
<211> 328
<212> DNA
<213> Pinus radiata

<400> 484
ggggaatgat tcctggccga ggccattcga gcgccataca cattgcggcg gactgcggga 60
agtattgttt tcagtaattc ccttaattgg gtcccagaat acgttctcag atccgaaaac 120
ggttcagtcc atcggaggtt acagcgattc gaaggcctga aaccctaaa aatacctatc 180
cccctttgtc tttgaatggc ggagaactat ggcagcccgg atagcagccc ccggtcggag 240
aacgaatccg gcggcggtca catgggcggc agcgatttct ctgtgaaaga gcaggatcgg 300
ttcctgccta tagccaacgt ggggcgca 328

<210> 485
<211> 919
<212> DNA
<213> Pinus radiata

<400> 485
gtcatccata ttttcttttt cagtctgcaa tacaaattgt tattcgagat acgattgatc 60
atgcttgaag gctatgccta tgcttgcgga aacataccgt gacagctttg agacgacttc 120
gggaggtagc agcgtggatc tggtaggaat ggctctacca ggtttggccc ctaatttgtc 180
ttctgcttca gtttcagctt cagcgtcgga agattctgcc aagaaaataa ggaaacccta 240
taccatcacc aagtccagag agagctggtc tgagcaagag cacgataaat ttctcgaagc 300
ccttcaacta tttgatcgtg attggaaaaa gattgaagct tttgtaggat caaagactgt 360
catacagatt cggagtcatg cacaaaagta cttcttgaag gtccaaaaga atggcacaag 420
agaacatgta ccacctcctc gtccaaaacg caaagcatct catccatacc cacagaaggc 480
ctcaaaaaat gttcctgtgt cacagcaagt atcaactgct tttccaactg ctgctactca 540
actagattct ggatattatc caagggcaga gtcgtcttcc atactcacca aatctggctc 600
gtcatgccca actgtttctt cctgggttca tcataccata ccatcaatag atgcttcgtt 660
tgtggaaaaa gatgatggtg ggcctccagg cattgaaaca gggaataatt gcagtagtgg 720
tagcactgag agttctcctc ctacgtggcc accctgttct gaaatccctg agaaagtcaa 780

accagatttt tcacaagttt ataagttcat tggcagtgtc tttgacccga gcacaactga 840
tcacttgaag aagcttaagg aatggatcca attgatcttg aaactgtgtt gtacccatga 900
ggaacctttc cacaacttg 919

<210> 486
<211> 359
<212> DNA
<213> Pinus radiata

<400> 486
tctgtaagtg cttgagggct tcttgtatcg atgaggccat taacgatggg aagatctttt 60
agttgttgga gctgttcaaa agataatggc cacgagcgtc ttaatcgtgg atcttggagt 120
gctgaggagg atacaatttt gagtgaacat atcaaaactc atggagttgg tcgatggaca 180
tctcttccca agaaagcagg tctaaaacga tctgggaaga gttgcagatt acgttggttt 240
aactatcttc gttcagatat caagcatgga aacatttctc cggaagaaga ggaactcctc 300
atcagattac atcgtctcct tggcaatcgt tggtcgttga tagcaggacg acttccagg 359

<210> 487
<211> 438
<212> DNA
<213> Pinus radiata

<400> 487
gtagggtttt aaggaagaaa gacgatccaa gcagtgggtt tttatcgagc tcccacgcag 60
tttgaagggt gtcgcagcag aagaagatcg gattcgttca tcctcatcac aaagaatata 120
ccatgggggt cattacccat gtaaaagaaa agtaagagat ggatcgggat aagcttatga 180
agatggctgg tgcagttcgt actggtggaa agggtacagt acgcagaaag aagaaagcag 240
ttcacagagc cacaacaaca gatgacaaaa ggctccaaag taccttgaag aggttaggag 300
tgaatactat tcctgctatt gaagaagtaa atattttcaa ggatgagatg gtcattcatt 360
ttataaaccc aaaagttcaa gcctctatta atgccaatac atgggtggtc agtggatctc 420
cccagacaaa aaatttac 438

<210> 488
<211> 478
<212> DNA
<213> Pinus radiata

<400> 488
agaatttagg tagggtttta aggaagaaag acgatccaag cagtgggttt ttatcgagct 60
cccacgcagt ttgaagggtg tcgcagcaga agaagatcgg attcgttcat cctcatcaca 120
aaagatggat cgggataagc ttatgaagat ggctggtgca gttcgtactg gtggaaaggg 180
tacagtacgc agaaagaaga aagcagttca cagagccaca acaacagatg acaaaaggct 240
ccaaagtacc ttgaagaggt taggagtgaa tactattcct gctattgaag aagtaaatat 300
tttcaaggat gagatggtca ttcattttat aaacccaaaa gttcaagcct ctattaatgc 360
caatacatgg gtggtcagtg gatctcccca gacaaaaaat ttacaagatc tccttcccgg 420
aatcatcaat cagcttggac ctgataattt gattaatttg aagaagattg cccaacag 478

<210> 489
<211> 608
<212> DNA
<213> Pinus radiata

<400> 489
tgacgacgaa gaagaagctt ctctgaaggg caaggtgcgg tggggactag attcgatagc 60
ggctctgggt ttaaagttct gaattaaacg ggctttggct aaaaagtaaa aaacggttgg 120
aatttgagca ggaggagctg atagagtgtt attatcggga cggatgaaat aattgaagcc 180
aaaggggctt atgtgtgtgt tttgcggact tctgcgagta aggggaaatg gaattattgg 240

agtgaagtag gtgttcttgg agaaatatgc gggcagctca taataacagc aataatagtg 300
agaaatcttg cgtgttgaga tctctctgag cttcgctttt cagaatgagg accggcttct 360
cccagcagca tcgggaaggg gaaaagagga gtctcaattc agagctatgg catgcatgtg 420
ctgggccact tgtgtcccta cctgctgttg ggagccgtgt tgtatatttt cctcaaggtc 480
acagtgagca ggtggctgcc tcaacaaaca agaggttgat gctcacattc ctaactatcc 540
aaatcttcca ccacaattaa tctgccacta cacaatgtta ctctgcaggc agatgtggag 600
acagatga 608

<210> 490
<211> 331
<212> DNA
<213> Pinus radiata

<400> 490
ttgaattctt gtcttccccc cagctgaggc tctctgagac caaggtgaga ttcagccagt 60
agtaagctat agattgatag ttcagagaaa agactgaaag gcaaaaacta tatagacata 120
acaacggaga gagcagcaca ggaaccaggt tgcataatgg ctaggcctca aagatacaga 180
ggagtccgtc agaggcactg gggatcatgg gtctctgaaa tccgccatcc cttattgaag 240
accagaatat ggctaggaac atttgaaaca gcagaggatg cagcacgagc atatgatgaa 300
gctgcaagga tgatgtgtgg gccgagagct a 331

<210> 491
<211> 431
<212> DNA
<213> Pinus radiata

<400> 491
ccgctatcct ttccattaca tcccacgtta ggtcacggtt tcgaaccctt gcacggccat 60
tcttctgtta agatggtgag atctccctgc tgcgacaagg ttcataccaa taacaaaggc 120
gcctggacca aagaagaaga cgagcgtctc atagcacaca ttgaagccca cggcgagggc 180
tcatggcgtt ctcttcccaa ggccgcaggg ctgctgcgat gtgggaagag ctgcaggttg 240
cgatggataa actacctgcg tcctgatctg aaacgcggaa gcttttcaga agaagaagac 300
gatctcatca tcaaactcca ctccctcctc ggcaacaagt ggtcgcttat tgcagggaga 360
ttgcagggcg aacggacaac gaaaataaaa aattactgga acacgcacat gaaaaggaaa 420
ttgttgagca g 431

<210> 492
<211> 469
<212> DNA
<213> Pinus radiata

<400> 492
gccagagctg tggctgttcc cagaagagga tatcatcagc tgtccagttt gtcctaagag 60
actacagaag aagaatatag aagatgggta gatccccttg ccccccaaaa gaagcgctta 120
accgtggggc ttggacaggc atggaggata cgattctcac cgagtacatt cgagttcatg 180
gcagtggtgg ctggaaagat atctccaaaa gagcaggtct taagaggtgt gcaaagagtt 240
gcagattgcg ttggctgaac tatcttcgtc ccgatattaa acgtggtaac atttctcccg 300
aggaagaaga gctcattatt cggttgcatc gccttcttgg aaatcggtgg tctctgatag 360
caggacgact gcctggtcga acagacaacg aaatcaagaa ttactggaac actcatatga 420
gcaagaagcc atggctgtca atggacgaat ctcagtccaa tacttcgca 469

<210> 493
<211> 380
<212> DNA
<213> Pinus radiata

<400> 493

gaggaggagg acgaggagga ggctgggaag gagctggagg cgtgggagag agcatacgct 60
gacgaaaggt catgggaaac cttgcaggag gacgaggagg gtcttctcaa ctttgacaag 120
aaacagcagc aacagcaaca gcgccaatac agacgccgtc tgcagtctgc tgcagccgcg 180
gcttcaaaca ttcagcgagg attgatccgt tatctctaca tcatcatcga cttctctcgg 240
gcggcagcag agaaggattt caaaccaaat cgaatggtgg tggttgcaaa ttgtgtcgag 300
gcatttgtga gagaattctt tgatcagaat ccactaagtc agctgggtat tgttattata 360
aaaaatggcg ttgcacatcg 380

<210> 494
<211> 420
<212> DNA
<213> Pinus radiata

<400> 494
gtcgagctcc ttgctgcgag aaaacccata caaacaaagg cgcctggagt aaagatgaag 60
atgaagcact cgttgcatat attcaagccc atggagaagg cagttggcgt tcccttccca 120
aggccgctgg gttgcagcgg tgtggcaaaa gctgcaggct tagatggata aattatctcc 180
gtcctgacct caaacggggc aatttcagcc cagaagaaga tgagatcatt atcaaacttc 240
attctatgtt gggtaacaag tggtctttga tcgcaagcaa attgccaggg cgaacagata 300
atgagataaa gaattactgg aacactcaca ttaagagaaa aatgttagaa aggggtctag 360
atccttctac ccatctccct ttaatgtcag accatggctc ttttgagtcc tccagcaaga 420

<210> 495
<211> 568
<212> DNA
<213> Pinus radiata

<400> 495
aaaagttgtt cctccactgg atttcactca gcagccacct gcccaggagc tgactgccag 60
ggatcttcat gacaatgaat ggaaatttcg gcatattttt cggggtcagc ctaagaggca 120
tctgctcaca acaggatgga gtgtttttgt cagtgcgaag agacttgcag ctggtgattc 180
tgtgctcttt atttggaatg agaaaggaca actgttgttg ggaattagac gagcaaacag 240
gccacaggct gtaatgccct cattggtact ctcgagtgat agcatgcata tagggctcct 300
tgctgcggct gctcatgctg ctgctacaaa tagtcgattt actattttct ataatccaag 360
ggcaagtcca tctgaatttg tcatacctct ggcaaagtat gttaaagcag tttatcatac 420
tcgtgtttct ataggaatgc gttttagaat gctatttgag acagaagagt cgagtgttcg 480
cagatatatg ggcaccataa ctggcataag tgacttggat caggttcgat ggccaaattc 540
acattggcgt tctgttaagg ttggttgg 568

<210> 496
<211> 396
<212> DNA
<213> Pinus radiata

<400> 496
tgggagtttg ctaatgattg tttccggaaa ggagaaaagc agctgctctg cgaaattcat 60
agaagaaaaa gcgtccagca atcttcagca gcccctgcta gcagatgcgt ttcgccggtc 120
aattctgtgg aagagcaggc attgtcttcg acctcctccc ctgtttcttc tcacgcagag 180
gcggcgttag ttaattgtgg tcaaaatagc acatccgggc tccatggtga aaatgaaaaa 240
ctcagaaaag ataatttgct tctcatgtca gagctggcac aaatgaagaa acagtgcaac 300
gatctcctcc tgtttctgtc aaagtgtgta aacattaccc cggacaacct cagcaatatc 360
ctgatagccg cttctcaaac gaattgccgc gatgaa 396

<210> 497
<211> 643
<212> DNA
<213> Pinus radiata

<400> 497
cggcaagtgg ggagtgccgg acaatttgta tggagctcag gaagacagtg gtggaagtag 60
tgttaaacag aagaacttga aggatgggga ccaattcacc agtagtgatg aagctgacag 120
tgaggtcaat gaattcaaca ttatgaaaag aagcaattca ggggttggat atgaagataa 180
caaaagaagt gggggcaag gtgatggcaa tcagtacagg tcacgtcact ctcggagcat 240
ctccatggat agcattatga gtaagatgca taacttcagt gaagacttgg aacaggaacc 300
gtctcaaggt cggaatgtca gacactccca tagcaattcg atggatggaa gtacaaattt 360
caatgtggaa ttcgggaatg gggaattcag tgcatctgag atgaagaaga tcatggccag 420
tgagaaactg gcagagcttg caacggtgga tccaaaacgt gtcaaaagga tattggctaa 480
tcgccagtcg gctgcacgct ccaaggaaag aaagatgcgc tatatctcag agctggaacg 540
caaagtccag accttgcaaa ctgaggcaac aactttgtcc gcacagctga ctcttttgca 600
gagggatcaa ctggactggg cagtcagaac cacgagctca agt 643

<210> 498
<211> 328
<212> DNA
<213> Pinus radiata

<400> 498
aaaatctgta cctagagccc agcaatatcc ttcgcaatgg ctgacggcca ccagttcaac 60
aatattttgc ttgtaggtcg aggcggcacg aatccgggtc aactgaggat acattctgga 120
ggtatagtgt ggagaaggca gggtggaggc aaggtggttg atgtggcgaa aaacgaagtc 180
aagagtttga gttggactcg agttcccagg ggttatcaac tcggtgtcaa gcttaaagct 240
gggttgaaca tcaagcttgc gggatttcgt gaacaggatg tcggcaattt gacaaatttc 300
atgacaaaca caataggatt agctccca 328

<210> 499
<211> 372
<212> DNA
<213> Pinus radiata

<400> 499
gttgtattgt attgcaagtg aggaaattta ggaggtgtgg cgtaaaatgg gagaccacag 60
tggtggagag agcagtcctc attctgacat agagtctacc ggcatccaca ataatggatc 120
ttcttcttcc tcacaatcca tcatacgaga gcaagaccgg ctgcttccca tagccaatgt 180
ggggcgcatc atgaagaaaa ccctcccaac caacgccaag atctccaagg aagccaagga 240
aatcatgcaa gaatgcgtct ccgagttcat tagctttgtt actggagaag catccgacaa 300
gtgtcacaag gaaaagcgca agaccatcaa cggcgatgac atactatggg ccatgaccac 360
tctcggattc ga 372

<210> 500
<211> 344
<212> DNA
<213> Pinus radiata

<400> 500
ccgcaacatt caacgtaatg aatatcataa tcttttcaac ttcatcagtt ccaagggatt 60
gaaaataatg aacttaggag atgcacatgg caccagtgga gttgctgccg ttctcgagaa 120
ttcggatgat gaagctgtgg atccacatct tgaacgtatc aaaagtgcac gtgaaggcgg 180
tgctggagaa gatagtgatg aagaggcatg ctacactggg gacttatctc tgatatgtgc 240
tgtagtcaaa gaactaatat gcacacatga ttaacaagag ttaaatcaag agactgatgt 300
ctgtttctgt tttgtttgtg tgcaggatga ggattttgtt gcag 344

<210> 501
<211> 462
<212> DNA

<213> Pinus radiata

<400> 501
gggaggcaga gaaggaacgg aaaaaggagt gaatttttgt gggtttgtgt ttattgggaa 60
gatggggtgt gtgtcgtcca aggtggagaa tgaagaatta gtgaaaagat gcagggacag 120
gaggaggcta atgaagcagg cagtgaattc caggcacaat tttgctgcag cccacattgc 180
ttatttgagg gctctgcaaa acacagggaa tgctctggta caatttgcgg agggggaatc 240
cagtgctatg aatggcaatg ctattgaaga agcggccaca ccaatgccag cgaccccatt 300
aacagcatct catcgccatc ccatgaaatt ccatcctcct cctccgcctc cgccgccgcc 360
attggtgcct agcagcccct ccgtgagtcc cagcatggag agctttcgta tgccatccaa 420
acacaatccc ctcagtaggt ctacttcaga cattagctat gt 462

<210> 502
<211> 504
<212> DNA
<213> Pinus radiata

<400> 502
tatgtctctg catttcagcc agtccatggt ttcaagttag ttagtccaat aaagcagaga 60
tgggtcgtgc tccatgctgc acaaaagttg gtctcaacaa gggagcatgg tctgccgaag 120
aggatagtct tctgggaaga tatattcaaa ctcatggtga aggcaattgg aggtctctgc 180
ccaagaaagc agggctgcga agatgtggaa agagctgcag attgcgttgg ctaaactatc 240
ttcggccatg tatcaagcgg ggaaatatta caacagatga agaagaactt attatcagaa 300
tgcatgctct cttgggcaac cgatggtcga taatagcagg gagagtcccc ggccgaacag 360
acaacgaaat aaagaactac tggaacacta acttgagcaa gaaacttgct gtcaggggaa 420
tcgatcccaa gactcataaa aaaatcacga cggacggcac gaacagagtc aacggtgatc 480
gtttcagcca gaggaaaggt gaga 504

<210> 503
<211> 416
<212> DNA
<213> Pinus radiata

<400> 503
acggcaactc attcgtgaac tagaacagat gtttaacatt gaaggagaac ttgaggatcc 60
aagcaaaggt tggcaggttg tatacactga caatgaaggg gatatgatgc ttgttggaga 120
tgatccatgg caagagttct gtagcattgt gcggaaaatt tacatttata cgcgtgaaga 180
ggttgaaaaa atgaccccac aaaccccaag tgcgaactca aggatgttc agaagagcct 240
gtcacaagag gaaacttccc ggagttctga tcgtcaagat tcatcaattg cgggggtcac 300
cgctgaaagg agttctgatg cctgatacca tttcaatctg catgttggtc acttctgtcg 360
ggcctgctaa aggggcatca aagggcatgt tttagttggc cgtttgatgc cttggg 416

<210> 504
<211> 1206
<212> DNA
<213> Pinus radiata

<400> 504
gccgaaactc gaatcgatat gctttgtggc cggttcaaat atttgagctg gcttagcttc 60
tctggttcag aaatggcgga ctaaagtaat agtgtgcccc gaggtctggt gttcgaatct 120
cgttggcgtg aaaggtcaaa tttttctctc gagtttcatt gattctgaaa aactggcata 180
gctatggcga tgagcaatgg gagattgtgt gaagatttgg ataggattaa ggggccgtgg 240
agccccgagg aggacgcgtc gctgcagagg cttgttcaga aatacgggcc gaggaactgg 300
accctgataa gtaaaggaat cccggggcga tccgggaaat cgtgcaggct acggtggtgc 360
aatcagctga gccctcaggt ggagcacaga ccttttaccc cgtccgagga tgctgctatt 420
ctgcaggccc acgcgcagca cggcaacaaa tgggcaacaa ttgcccgagc cctccccggc 480
cgcaccgaca acgcgatcaa gaaccactgg aactccacgc tacggaggcg ctgccgggac 540

cccaaaaagg gcatcgttgt ccacctggac gacgaaatca gcagcttaga cgccgctcgc 600
aagcggagca gcgacggctt ctcccacgat ggcagcagtg cgctggagga caacggatgt 660
agcagctggg aagtggactc caagcggctg aagagactag gagaactggg aacagagcag 720
ggccccgagg ttgaagccga ggtcgaggtt tcggaccgga gcgacgccaa cccgggacgc 780
gtgctgtaca ggcccgtgcc ggtcgtgtct tttttcagtt cattcgggaa aaccgttgcg 840
aatctacagg aaacggcggc cggcgcagtc ggtgtcgatc cgccgacctc gctgagcctg 900
tcgctgcccg gactcgatcc cgcgatcccc tctccgaagc tgtccactca aaaggactct 960
cacaacaata gcacagttaa taacaatatt cctattccgc cggtggtgaa tacatgagag 1020
cagacgaggc ggtggtggag cgactcagca ccgccgtcaa ggccacggtg gcaagcatgc 1080
taacgcctgt tctgaactcg tcgccacgtg gctacaaccc accggctgtg agcagcgacc 1140
ttctggcgct gatgcgggat atggttgcga aagaagtgca gaaatatatg tccagtcatc 1200
accagc 1206

<210> 505
<211> 386
<212> DNA
<213> Pinus radiata

<400> 505
gagaatttgg tcgttcatct gaaaaaggac gaggatatgg aaggggccgt ggccgtggtg 60
gtcgtggagg atatggtaat gatgctggtg atgaaagtca gaggcctcgg aggcagtatg 120
aacgtcggag tggtactgga cgaggctacg aggttaagag agaaggggct ggtcaaggaa 180
attggggtac tcctacagat cagggattca cagaggaacc tgaagagctg agtcgtgcag 240
aggaagagaa gactgtgacc cctgagaaac aggaagaaca gaaacccagt gaagagtcca 300
atcaagaaat ccctgcacca gagtctgaag agaagaaaga ggaggaagaa gacaaggata 360
tgactcttga tgagtatgag aaagtg 386

<210> 506
<211> 408
<212> DNA
<213> Pinus radiata

<400> 506
ggcagtgaat agcagtctct ctgttggaat gaggttcaag atgcgttttg aaggagaaga 60
gtctcctgaa cggaggttta ctggtacaat tattggcatg ggtgaggttg ataatgtgag 120
atggccagaa tcaaagtgga gatcacttaa ggtccagtgg gatgaaacat cagtggtccc 180
gcgaccagag agggtttcac catgggaaat tgagacgttt gtagcttcat ctgcagcact 240
taatcctttg ccagcaccaa ggactaagaa gcctcggccc aatttggtgt cctcatctca 300
ggaattaatg atacatggat cgggcaaaac agcaacagat tcttcacagg tacacagatt 360
gccaagggtc ttgcaaggtc aagaaatgag gacctttgga ggatcctt 408

<210> 507
<211> 320
<212> DNA
<213> Pinus radiata

<400> 507
gcaaagagtt gcagattgcg ttggctgaac tatcttcgtc ccgatattaa acgtggtaac 60
atttctcccg aggaagaaga gctcattatt cggttgcatc gccttcttgg aaatcggtat 120
gtagagaatc gggggacatg atttattcat gcgccagaat ttcacgattc ctcatcgaat 180
tagtcatgca atgtttgtgc aggtggtctc tgatagcagg acgactgcct ggtcgaacag 240
acaacgaaat caagaattac tggaacactc atatgagcaa gaagccatgg ctgtcaatgg 300
acgaatctca gtccaatact 320

<210> 508
<211> 395
<212> DNA

<213> Pinus radiata

<400> 508
ccggtccggg cggtggagag catcagcctt ggagttacag accaggaaaa tacaagatgg 60
gtagatctcc ttgctgctcc aaagaggggc tcaaccgcgg ggcctggacc aaaagggagg 120
atatgattct ctccgaatac gttcgaattc atggcgatgg tggatggaga aatcttccgg 180
aaaaagcagg tcttaagaga tgtggaaaga gttgcagact acgctggttg aactatcttc 240
gtcccgatat taaacgcgga aacatttgcc ccgccgagga ggagcttatt attcggctgc 300
atcgccttct tggcaatcgg tggtcactga tagcaggacg actgcctggt cgaacagaca 360
acgaaatcaa gaactactgg aacactcatc tgagc 395

<210> 509
<211> 658
<212> DNA
<213> Pinus radiata

<400> 509
gccatatcta catgaatctc gacatcttca tgcgatgaag agagcgagag ggtgtggtgg 60
tcgctttctg aacaccaaaa agttagagga ctcgaaagca aatgtggata atggaaagac 120
accagaagga catactgcgc aggctgggag ttcttcaggt tctgaagttc tgcaatctga 180
aaatggaaat ggaaattcta cccaggagct acatggtgct tgtgggatgt caggctcaca 240
agttactagc attgcacagt catctgaaaa tggtacaact tatcaatatt ctcatactaa 300
tggagcatat cttaaccact atcaacatcc acatttccat atatcagctt ttcacccgct 360
ctcaagtgga ggcgaggaag gcagcagtgc aaaaggtggg agcataatat ctggtggatc 420
acaacaacga gttgttgtga tccagtgaag tgtgaaataa gatgttagtg gtgagaatct 480
cacgtgcttg gttctccgtg tcacattgac tataaagata ggtctcaatg agtgcgaaga 540
tcataaaatg aaacagattt tataaagtct tcgcaatttt atggttcaga ggccattatc 600
agtaaaacag gcaacccgtg atggtttgtt tttgaatggg ttgcagtttg cacaaaca 658

<210> 510
<211> 351
<212> DNA
<213> Pinus radiata

<400> 510
cacgagggcc agagctgtgg ctgttcccag aagaggatat catcagctgt ccagtttgtc 60
ctaagagact acagaagaag aatatagaag atgggtagat ccccttgccc cccaaaagaa 120
gcgcttaacc gtggggcttg gacaggcatg gaggatacga ttctcaccga gtacattcga 180
gttcatggca gtggtggctg gaaagctatc tccaaaagag caggtgagtg tcaataaaaa 240
tttaatagca attcttttta ttagcagaag gaagtagcaa tctcccaggt tatatataac 300
aattcatcag tcatatatat cagaaattta tagtcgagtc taagagggag a 351

<210> 511
<211> 754
<212> DNA
<213> Pinus radiata

<400> 511
gttacacggc ctgggaaatt ccgtagttgt caagatggtt atgctgtgag ggcttccctc 60
aaggctgaag atggagtgtt atatcctctt gaaaaaagct tttcttcttt gcctaaaccc 120
ccgacactta ttcttcacga ggagattgaa tatcttgagt ttgagagaca tggagctgct 180
ggtacgagta gtatgtcttc acactatttt gatcttatta taaagctgaa gagtgagcaa 240
gagcatcagt tccgaaatat tcagaggaat gaatatcaca atcttttcag cttcataaac 300
accaagggtt taaaaatcat caatttagga gctacagaaa ctattggtgg agttgcagcg 360
gctcttcaga attctgacga tgaagctgta gatccacatc ttgagcgaat aaaaatctac 420
gtgatggtgg agctggtgct gaagacagcg acgaagagga tgaagacttt gttgcagaaa 480
acgatgatgc tggatctcca acagatgagt cagaagaaga gggatcagat gcaagtgaga 540

gtgcagaggt caagcaacct gcaaagaaag aagtaaagaa aaaaaaggcg gtggctccca 600
aggcaaccga gaccaagaag aagaagaagg gatgacgagg aagagggagg aaagaaaaag 660
cagcggcgaa agaagaagga tccaaatgcg ccaaagaaag ccatgacttg gttttgtcct 720
tttctcaagt gaaagagaga tctgaaaaag agtg 754

<210> 512
<211> 424
<212> DNA
<213> Pinus radiata

<400> 512
cttcctggtg ttgttgctgt gatttctctg ccattctgtg ttgggtttat ggttttagct 60
tcactacaag cctttagcaa gcctcacaaa taagctttgc agtaggatgt ctcctccccc 120
gtcatattcc atgtttccca attcaggaat gggcttaaat ccctcagtga catcttcaga 180
accctctagt caggtctccg gatcgatccc ccatcaatat tcaggctccg aggaagaccc 240
taaactgacg atcgatgaaa gaaagcagaa gagaatgctt tctaacagag aatctgcaag 300
gaggtccagg atgagaaagc aacagcattt ggatgaattg agagcccgaa cagctcatct 360
cagagcagag aacagtcata tgctaacaaa attcaacatt gcttcacaga aatacatgca 420
gctg 424

<210> 513
<211> 487
<212> DNA
<213> Pinus radiata

<400> 513
cgaggtcagc cgagaaggca cttgttaaca acaggctgga gtgtctttgt tagcgcaaaa 60
agactagttg caggcgatgc atttattttt ctgaggggtg aaaattcaga attgcgggtg 120
ggggtgaggc gagttatgag acagcaaagt aatatgccat catcagtcat atctagtcac 180
agcatgcatt taggtgtcat tgctactgca tctcatgcag ttacaactcg gaccatgttt 240
actgtttatt ataaaccaag gacaagccaa tcagagttca ttattcctta tgataaatat 300
atggaggctg tgaatagcaa cctttcagtt ggaatgaggt ttaagatgag gttcgagggt 360
gaggaggccc cagaaaggag gtttactgga actataattg gaataggtga cgttgatcct 420
tccagatggc catcttcaaa gtggagatct ctgaaggtgc aatgggatga aacctgtgca 480
attccac 487

<210> 514
<211> 648
<212> DNA
<213> Pinus radiata

<400> 514
gttttcccga aatatgggac gttcaaggtt tccaacaaac tgctatgttc tctcagccct 60
ttctcttttt cctgcggctc gagcgtgagg tcgatgtatt cattcctgtt aaattttctt 120
ttgttctctt ttccattttc gatgcctctg tcgagttctt ttttctgaga tttttgcagt 180
cttcgaaggt ttgagtttgg cctcagcctt ggaagtatct cttttggtct taggtaatgg 240
aattgtaacc ttcccgaaca acggcggtag tggtctggag attcgcatgt acgaagataa 300
aatggcgcaa tctgaggaac agcctaatga agccacggtt cctcgccctg ctgattctca 360
tagatctata ccaacgccgt ttctcatgaa aacctaccgg cttgtcgacg atccgagctt 420
gaacgacatt atttcatgga acgaagacgg cactacgttc atcgtttggc ggcctgcgga 480
attcgcccgt gatttgctgc cgaattactt taaacacaac aatttctcca gttttgtccg 540
gcagctgaat acatacggat ttcgaaagat tgtgccagac agatgggagt tcgccaacga 600
gtttttcgc agaggagaaa agaaattgct ctgcgagatt catagaag 648

<210> 515
<211> 315
<212> DNA

<213> Pinus radiata

<400> 515
tgcatttcag ccagtccatg gtttcaaggt cgaatctcct tgctgacatg aatccatcaa 60
tatatataga gagagagaaa tatacgtttt tcagatttaa gcatggccgt ttaataatct 120
gcattgcatg gcgagattgt atttgtgtta gaagttgatt ttctgttttt tctctttcag 180
ttagttagtc caataaagca gagatgggtc gtgctccatg ctgcacaaaa gttggtctca 240
acaagggagc atggtctgcc gaagaggata gtcttctggg aagatatatt caaactcatg 300
gtgaaggcaa ttgga 315

<210> 516
<211> 563
<212> DNA
<213> Pinus radiata

<400> 516
gacacgtagt ggatcaaaga attcggcacg agctcctgtc tctgggttct ctatgaattc 60
taacatgggt gtgtctggag gtctagatga aagtgggttt tcacagcctc caccaaattt 120
tgcaaagatg aatgctccca cgagaacatt cactaaggtt tacaagctag gttctgttgg 180
gaggtcagtg gatgtaacac gtttcagggg ctatccagat ctgcgtgccg agcttgaccg 240
tatgtttggt ctagaaggcc agctggagaa cccaagatca agctggcagc ttgtatttgt 300
tgacaaggag aaggatgttc ttctccttgg ggatgatcct tgggaggagt ttgtcaataa 360
tgttcgattt attaagatac tctctcctcc agaagtgcag cagatgagtc aggaagatat 420
ggagttttgg agttccattc caactcagca gcagacaagc agtagttcag acgactgtgt 480
agctagaaat tcttctcgca acatcagatc agttctcaca tcgcctggct ccctggacgt 540
attaagtgta gatccaattg tac 563

<210> 517
<211> 392
<212> DNA
<213> Pinus radiata

<400> 517
ttcatgacaa tgagtggaaa tttcggcata tttatcgggg tcagcccaag cggcatctgc 60
tgacaacagg atggagtgta tttgttagtg caaagagact cagtgctggt gatgctgtgc 120
tttttattag gaatgagaaa ggacagttat tgctgggaat caggcgagca aaccgatccc 180
aaacggttat gccatcatca gtgctgtcca gtgatagcat gcacataggt gttcttgcgg 240
ctgcagctca tgctgcttca acaaactgcc gcttcactat tttctacaat ccaagggcaa 300
gtccatcaga atttgtcata ccattgtcta agtatgaaaa ggcagtttat cacacacgag 360
tttcaattgg aatgcgcttc cggatgctgt tt 392

<210> 518
<211> 319
<212> DNA
<213> Pinus radiata

<400> 518
tttaagcatt tcattgagtc ttaggtcacg gtttccaatc ctggcaggtc tcattattct 60
gtctctctgg caagatgggg agaactccct gctgtgaaaa aggtcataca aacaaaggcg 120
cgtggaccaa agaagaggac gatcgcctca tcgctcacat tcgagcccac ggcgaaggcc 180
gctggcgttc gcttcccaag gccgcagggc tgatgcgatg cgggaagagt tgcaggctcc 240
gatggataaa ctacttgcgt ccacatctca agcgtggaaa cttctcagaa gaagaagatg 300
agttcatcat caaactcca 319

<210> 519
<211> 513
<212> DNA

<213> Pinus radiata

<400> 519
accgtcgaga gagcttcata tctaaccaat acataacacc tgtatggctt catagcttca 60
cagcaacagg gcaccatggg ccgagctcct tgctgggata aaatgggagt aaagaaaggc 120
gcctggactc tagacgaaga taaaatactc gtcgattaca ttaccaaaca tggccatggc 180
aactggcgcg cactgcccaa gcaagcaggg ctcctgcgat gtggaaagag ttgtcgcctg 240
cggtggacga actacctgaa acccgacatc aaaagaggga attttagtcc agaagaggaa 300
gatcaaatta ttaaattgca tgagctcata gggaatagat ggtccactat tgcttcgtac 360
ttgccaggaa gaaccgacaa tgagatcaag aacgtgtgga acacccattt aaagaaacgt 420
ctcgcgcgta tgaaagccga ctcggttgca gtcgacgcac agccaacgcc tgcgtcttcc 480
ctggcctcat ccactacaga aatgacgtgc cac 513

<210> 520
<211> 219
<212> DNA
<213> Pinus radiata

<400> 520
gtgcattgaa gccaatggcg gaggggctcc tggacgctcg cttcccaagg ccgcagggct 60
gcagcgatgc gggaagagct gcaggctgcg atggataaat tacctgcgtc ccgatgatgt 120
caagcgtgga aatttcacag aagaagaaga cgatcttata atcaaactgc actcactcct 180
cggcaacaag tggtctctaa ttgcagggag attgccagg 219

<210> 521
<211> 392
<212> DNA
<213> Pinus radiata

<400> 521
cttagcgacg gttcccaatc cctagtccct gcactttact cgtctctctg tgaagatgag 60
gagattgcgc tgtgagaagg gtaatacaaa caaagggggcg tggacccaac aagaagatgc 120
ccgactcatc gcctacattc gagcccacgg cgaaggcggc tggcattccc ttcccagggc 180
cgcaggtctg ctgcgatgtg ggaagagttg caggctgcga tggataaatt acctgcgtcc 240
taatctgaag cgtggaaact tctctgaaga agaggacgat ctcataatca aactccacaa 300
cctcttgggc gataagtggt ctcttatcgc gggtcgattg ccgggccgga tggaagacca 360
gataaagaac tattgggata cccactttaa ga 392

<210> 522
<211> 447
<212> DNA
<213> Pinus radiata

<400> 522
aggaaaggag gttcatattg ctgagcctga ccaggtttca gatccaccaa aggcaatcaa 60
atatgagcca cctgcagtaa gctgtgatca ggagaaacct ttgcaaaagt tatcaaaaga 120
aactcaagtc aaacagcacg gcaaccccac caggagctgt actaaggtgc ataagcaggg 180
gatagctctt ggaagggccg ttgaccttac taagtttgaa ggttacgagg aattaatttg 240
tgagcttgaa cgcatgttca acattgaagg agaactacgg aatcctagca aaggttggca 300
ggttgtgtac acggataatg aaggagatat gatgcttgtt ggtgatgatc catggcagga 360
gttctgtagc attgtgcgta agattttcat ctatacacga gaagaggttg agaaaatgac 420
tcctcaaaag catgccaaac tgcaagg 447

<210> 523
<211> 822
<212> DNA
<213> Pinus radiata

<400> 523
tggaaaccca aagctccgat aacaactaca tggtcggctt tgtcctggcc aatgtcgtgg 60
gattgcagta ctacacgggt accatcaatg gccgtgaaat gattcgacta gttcgcgagc 120
ctgaaaatcg gtacgacccc aacgccatca aagttctcaa catgagcggc cagcaggtcg 180
gtcacatcga gcgcgctgtg gcgctggcac tggcgtccca tgttgatcaa tccctaattt 240
taatcgaagg aatcgtgtcc agggctctgc ataaaggtgc ttacaagtta ccttgtcaaa 300
tctacatttt cagtcacagg gattcgatgg gcatggtcct tcagttgctt aaaggggccg 360
gattgaatgt tattactgcg gaggaccaag agtttttaac ggcggaatcc attgctgcaa 420
aagaaatata tgaagatcca ggggtgaagg aggttagaag ggtcgatgat atctttgggt 480
ctcttaataa tcccaagaag aggcagtcga tggaggcttg cgagcttgta acttcgacac 540
tcttacagca ccagaaggag gcattggctt ggatggtgca gagggagaat tcttccgaac 600
ttccgccatt ttgggatgtt tgtgacaaga cgagtaagtc acagcagctc agatataaaa 660
atgttttgac aaattttgag acgaatggaa ggccgaagcc tttgagaggt ggaattttgg 720
cggatgatat ggggcttggt aagacgctgt cattgctttc gctcattgca acgaaccgtc 780
ccggtgccaa gctccctcct gttgtagata ttgctccctc tt 822

<210> 524
<211> 390
<212> DNA
<213> Pinus radiata

<400> 524
cttaattccg caacacaatg cgttttcatt ggagttgaga ttttcagatc ggcaattgcc 60
aagctcaacg cccccaaatt gtgattcgat gtttccctcc cactacacag cgttggcatt 120
gcgtcgccaa atgtggagaa accccagaga gtccggacag agccattccc agcctccaga 180
gaaagataga ggaaaaactt tcggccaatt taagggaatc cgaatgcgaa aatggggaaa 240
gtgggtgtcc gaaattcgga tgccgagatc gaaggagagg atctggctag gatcctataa 300
aactgtcgag caagccgccc gtgcttacga tgccgcactc tattgcctca gaggaccaaa 360
cgccaaattc aatttcccca attccgtgcc 390

<210> 525
<211> 299
<212> DNA
<213> Pinus radiata

<400> 525
cgagcaacag cgaagccgat ttccaaagat ggatagggag aaactcatga agatggctgg 60
tgcagtccgc actggcggaa agggtacaat gcgaaggaaa aagaagacaa ttcataagac 120
tgccacggca gatgacaaga gacttcaaag taccttgaaa agaataggcg tgaataacat 180
ccctgctatt gaagaagtca atatttttaa ggatgaccat gttattcatt ttgctaaccc 240
aaaggtccag gcttctattg ctgccaacac atgggtgggt agtgggcatc gcaaacaaa 299

<210> 526
<211> 101
<212> DNA
<213> Pinus radiata

<400> 526
gggaaagacc cagatgaagt tgaagcgaga acgcgaccag caggcaaggg acgcttcaaa 60
gcgccgcaac gggctgctga agaaagctta cgagctctcg g 101

<210> 527
<211> 361
<212> DNA
<213> Pinus radiata

<400> 527
atcgcttcgg cccgagcaat tttgcttctc tgctaaacga tgggaagagc gccttgctgt 60
gccaacggtg acagaagcaa gggagcctgg accaaggaag aggatgacag gcttacccaa 120
tatattcagg ctcatggaga aggatgctgg cgttctctcc ccaaggccgc aggtctgctt 180
cggtgtggaa aaagttgcag gctgagatgg ataaattatc ttcgccctga tctgaaacga 240
ggaggttttt ctgaagatga agacgatctt attctcaaac tgcacgccct cctcggaaat 300
aagtggtctc tgatagcggg tcgtttgcct ggtcgaactg gccaccaaaa tcaaaactac 360
t 361

<210> 528
<211> 337
<212> DNA
<213> Pinus radiata

<400> 528
cgtaagagca atgttcattc attttgcaaa actcttactg cttctgatac tagcactcat 60
ggaggatttt ctgttttacg aaggcatgct gatgaatgtc ttccacctct ggacatgagt 120
cagcaacctc cttcgcaaga gctggtagcc agagatttgc atggaatgga atggcgattc 180
cgccatatat ttagaggcca accacggagg catttgctaa ccactgggtg gagtgttttt 240
gtcagctcaa agagactggt agcaggagat gctttcatat tcttgagggg tgaaagtgga 300
gaactgcgtg ttggagtgag gcgtgctatg cgtcaga 337

<210> 529
<211> 491
<212> DNA
<213> Pinus radiata

<400> 529
agcactccga gaagcaatta aaaatggtgc ttgtccaaac tgcggagggt ctacatcgct 60
gggagagatg cctggattcg acgaacacca tttccgtata gagaatacgc gcttaaagga 120
ggagcttgat cgagtgtctg gcattgccac aaaatatata ggaagatcaa tgccgcattt 180
ggcacccata gcaacaccac ctatgctcat gtcctctctt gaactcgcaa tggggagctt 240
cggtgggaag cagtcacagc ctgccgcgcc ctcggtcgat tttatttcag gtccactggc 300
tgacgggcct ataattaatt gtggaacctt gacggattta gataaaccgt tggcactgga 360
acttgcaatg aacggtgtgg aggagttgat ccggatggca caaactgatg agcctctctg 420
gttgaaggat gttaatgcgg gcagcgtgaa agagcttttt gaacttggat gagtatggca 480
gatcgtttcc t 491

<210> 530
<211> 350
<212> DNA
<213> Pinus radiata

<400> 530
ggtttcttta tatttatgtg cagattgcct ggacggacac ttgccaatgg acgtctcata 60
tggctgtgcc aggccaacga agcggacagc aaagtcttcc cacgtgctct tcttgctaag 120
agcgcctcta ttcagactgt tgtatgcatc cctctcgcgg acggtgtctt ggagtttgga 180
actactgaag tggagcgaga agaccctggt ctagtccaac gcaccataag cttttttttg 240
gagtacccca aaccgatatg ttcagagcaa tctacatcca gcccacagtg ctcagacaga 300
gacgaaaagg atcaagtggg catggtcaca ataatgtcct ccgacagcat 350

<210> 531
<211> 437
<212> DNA
<213> Pinus radiata

<400> 531

ttcctgttcg attcactgga tgccgtgaac atcaacatgg aggccgtgca caagatcgag 60
aagttcctgc tagctccgaa gatcgacgcc accatttcct ccgccgccgc tccgccatgg 120
aagaccctgt tcgccgccgc cggcttctcc ccagtggcct tcagcaactt caccgagacg 180
caggcagagt acctgatcca gcgcctccat agccgcgggt tcgaagtcga gaaagcgcac 240
gcggctctcc tcctcgggtg gcagggccgc ccactggtct ccgccactgc ctggaggtgc 300
gggcccccgc cttaattaat taaattatca aaaaccaatt tagcagacta ataacagaaa 360
taaacaaaat ctctgttttt ccttttttct tgttaatttt cccgggtatt ttctgttaaa 420
cctgagcttt gaaaaac 437

<210> 532
<211> 508
<212> DNA
<213> Pinus radiata

<400> 532
gaagaaaaac aactttccat aagtggacgg aactggggag aagtgaatct agaaggaaac 60
atgctcacat ttttggttgg ttcgaaacca gcttttgagg tatccttggc agatgtatct 120
caaacacagc tccaaggaaa gaatgacgtt gtcctagaat tccatgtgga tgatacaact 180
ggagccaatg agaaagattc tctgatggaa ctgagcttcc acattccaaa ctccaataca 240
acatttgctg ggatgaggc gagccctcca gcacagattt ttcgagagaa aatcatgtca 300
atggcagatg tggggtcatc gggtggagaa gcagttgcat tgtttgagga cattgctatc 360
cttactccaa gaggtcgtta cactattgag ctccatctat ctttcatgcg gcttcaaggg 420
caggccagtg attttaaaat tcaatacagc agtgttcttc gccttttgt tcttccaaag 480
tcacctcaca cacttgtggt gatcaccc 508

<210> 533
<211> 374
<212> DNA
<213> Pinus radiata

<400> 533
tctaggtcat tcacagaatt ttagtactga tgtcaatagg atgccggatg ttccaccccg 60
gagaggaggc catcgcaggg ctcagtcgga aattgcgttt cgcttgccgg acgatatcat 120
gtttgatggt gatcttggtt ttgctggttt tgacatgccc acggtctctg atgacgcaac 180
tgaggccgaa gatctgattt ccatgtacat ggatatggag aaattaactt cttttggaga 240
gccgttgaat tctgcggcgg gagaaggatc gaagctcccc tcgggtgctg agactaatcg 300
acctccgcat cattcaagaa gtctttctgt cgatgctgta ttttctggat tcgaaggtaa 360
catggaagat acga 374

<210> 534
<211> 487
<212> DNA
<213> Pinus radiata

<400> 534
acgatcttca ccctcggtgc gctctctgct tatcccgatt cccagccaac tgctattata 60
ttcggagtac tgtacttcca gaactggtat cttcaagcac caagaccatt ttctgagctg 120
ttaaagatac tatgagtgat atggatcgtt catcatcaga agattcagtg gattctcaag 180
gtgatgtgaa tgcaaactac aagatggttt tctcggaaga tgaaaaggat ctcataagca 240
ggctgtacaa tctactgggc cagaggtggg ctttgattgc tgggcgaatt cccggcagaa 300
ctgcagagga aatagagaaa tattgtagca ggcgatatat tagtgagtac taggtcacat 360
gggtttctaa tagtcaatga agaagaaggg tagaagcagc cttgcctatc taactgattt 420
aagtttggga tatatatatc gactttgagt gatggccata tcttctgggg tttataagga 480
agtatgt 487

<210> 535
<211> 372

<212> DNA
<213> Pinus radiata

<400> 535
tttgtttgtg aggtggagag atcagaattc tgcgaggttt ttttgtcaat caaaaaacag 60
atggacaggg atcatcattt gcagcatcat cgagtcgtaa ttcaagcttt tcaaatggat 120
atgataaccc acagaacacg aataagaatt cttcttcggg gggaactggt gatgccggaa 180
gctttgaatg caacatctgc cttgaacttg ctcaggaccc aattgtgaca ctctgtggtc 240
acctgttctg ctggccttgc ctgtacaaat ggcttcacgg tcattcgaag tctcaagagt 300
gccctgtatg taaggctttg gtggaagagg acaaaattgt tcccttgtat gggcgtggga 360
aggtgggttc tc 372

<210> 536
<211> 836
<212> DNA
<213> Pinus radiata

<400> 536
gtttgttcga acgatgaaaa ccagctaaaa caaagcgcag ggattggcag gattcgagca 60
gtggtccttg ggcggagtt gatagaagaa gaagaaacct accatataca catacatata 120
ttatatacat agacacatgg gggctccgaa gcagaaatgg acttccgaag aggagggagc 180
tctcaaagca ggtgttgaga agtatggcac tggcaagtgg cggaccattc agaaggaccc 240
tgagtttgga cactgcctcg ccgctcgttc caatgtggat ttgaaggata agtggcgcaa 300
tatgagtgtg agtgctagtg gccaaggttc aagggataag gtaaagactc caagagtaaa 360
agctattgcc tctctgcctt attcatcagt tactgctgaa tctacttctg tattctcaat 420
agaagcaaca acctcaacaa ctccagataa tcttatttcc cctaaaagtt catcaaatgg 480
gaaaattcac tcaccaaggt acgatggtat gattttagaa gcccttacaa gtatgcaaga 540
tccaaatggg atagacattg ccacaattgc aagtttcatg gaggagcgac atgaattgcc 600
ccccaatttc aagagggcgc ttggcacaaa gctaaggcgg ttggttgcac aggaaaaggt 660
tataaagatt cgcaatagtt acaagctcaa agatatgaca tctacagaag tgacatctga 720
agtcttggga tctgcaattc caattgataa ttcaatgcaa tactctaatg cattcaccaa 780
tacaattgat accttttcag tagatagagt aaatgaagct tcaatggctg ctgcca 836

<210> 537
<211> 478
<212> DNA
<213> Pinus radiata

<400> 537
atcacagtcg gcctctgatc aaagaagaag ccgaatcagg tgataattct gcaaattctg 60
cagatgtaga aactcttctt cctcaggttg atgaaacagc ttctgctgat ctgacagtgt 120
tcccaggttt tgttacccct tatgtaccat acgggttccc catatggcac acttttagac 180
ccacaataac tcaaacttcc aatgtttata agccaacagc tgtaatgcca actgctccaa 240
taaaaatgga cgaatgcaca gggttatccc agttaagcct cggcggtgtt gcagcggctt 300
ctgcaatgaa accctcagaa ctgtcactca aattacatgg aagacccccc tctagacaat 360
cagcttttca ggccaaacca tctctcaatg aaagcagtag tttgagttcc agcagcaatg 420
tcatcagtgt agtctgaatt gcaaggaaaa gcaggtgtga agaagatgat ggtatgga 478

<210> 538
<211> 565
<212> DNA
<213> Pinus radiata

<400> 538
cacatccata catgtggggt ggacagccgt tgatgccacc ttatgggact ccactaccat 60
atcctgcaat gtatccacat ggaggaatct atgcacatcc ttccatgcct ccgggtgcac 120
ttccgtatgg tcactatgga atgccatcac ctggcaatgc tgaagttaca acgactttag 180

cacttccaaa tgctgaagca gaagccaagt cctcggaagg caaagagcgg aatacaatga 240
agagatcaaa aggaagttta ggaagccttg gaatgattac tggcaaagga ggagaaggtg 300
gcaaggcaac atcgggatct gcaaatgagg ccatgtcaca aagtggggac agtggcagtg 360
acggttcaag cgaaggaagc gaggaatata acactcaaac tgagtcacaa gtggcgagaa 420
agagaagttt tgatcaaatg atagtagatg gagccaatgc tcagagtacc aatattcaat 480
catataattc ccaggctgga gaaccctatg tgacttccgg cgggcatgca atgggtaatc 540
ccattagtca agctgttgct gcagt 565

<210> 539
<211> 350
<212> DNA
<213> Pinus radiata

<400> 539
gggaaagtca ccgccagtgg gaaggtaact tctggagtta atgatttatt ttgggaacag 60
tttctaacag agactccggg ctcagcaaca gatacacaag aagctgagtc aaaaattcag 120
gagactagaa ctaaggatca agatgaaagg ttgcctgaga atgggaagtg ttggagcaac 180
aagcagacat tggatcaact tacagaacag atggggcagc tggcatcagg gacgcaaact 240
tgaaataaga ttatagaggc tgctagtagg tgcatatcac tgtcagttct gctaaaattt 300
ctggttagca atggtcactg tttatgtgtc ctaatgaatt gctccaaata 350

<210> 540
<211> 479
<212> DNA
<213> Pinus radiata

<400> 540
catatcattc atatgaatat ggatagcagg caatcagggg aagaggaaga ctgcaacgtc 60
actcggccag gaggaggagg aggaatatca ttacatgtta gcagcgtgga atattgccag 120
aagagtgctt gtgttgccca tgatatctct tctgatgaac aagatctgat aaatagactt 180
cacaatcttc tgggcgacag gtgggcactg attgcggggc gccttccatg gagaagaaga 240
gaggagattg agaattactg taaaatgaga tacacagcca ctacctcttc ttcacgctct 300
tgaatctccc tttctctcgc caggttatgg agtgtggacc aactatcgta atcagatagt 360
ttgggttgat tcagattgtt taggtttatc tccacttgaa aatatgtgtg gatatttgtt 420
tgtttgtttt atcaaaacca agtatagaag aaataaaatt tgatcgtttt atcgattta 479

<210> 541
<211> 580
<212> DNA
<213> Pinus radiata

<400> 541
agagagagaa cgtgggagaa aacctgcaaa tggccgtgaa gaacctctga atcatgttga 60
ggctgagcgg caaaggcgtg agaaattgaa ccagaaattt tatgagcttc gtgccgtggt 120
tcctaatgta tcgaaaatgg acaaagcttc tctgctcggc gatgctgctg cttatatcaa 180
agatctcttt tccaaacagc aggatttgga gtccgagagg gttgatatgc aggttcaaat 240
tgacactata aagaaggaat tattgatgaa ttctttgaag ttggcagcta aagaagcaaa 300
agatctttca agcattgacc ttaaaggttt tagccagggg aaattccccg gcttgaattc 360
agaagttcgc attgttggcc gagaggcgat aataagaatt cagtgtacta aacataatca 420
tcctgttgcg agactgatga tagcactgca agaacttgat ttggaagttc tccatgcaag 480
tatttctact gtgaaggatt ccttaattat ccagacagtc attgttaaaa tgaccagagg 540
tttgtacacg gaagaccaac ttcacgccct gctttgtaag 580

<210> 542
<211> 445
<212> DNA
<213> Pinus radiata

<400> 542
caaaagcaag gagcaagaaa agcaaatgga tttgcatcaa ataatattgt aattggggca 60
gtaatattga agtccaaggg accaggggct tattaagggc atcgagtaaa gcctctgaat 120
tttcaacctt gtagaaccta attgagtaaa acttcattca gttggattct catcgttttc 180
atggcttaca accgcaaaca tgccgccgcc gcaaccagcc cggacagcag cctgggctca 240
gacaacgagt ccggcggcgg aggaggaggc ggcggaggaa aagggcagtc gacgaagaat 300
ggcaatggca actacattag agagcaggat cgcctgctcc ccatagcgaa cgtggggcgg 360
ataatgaaac gggcgctgcc ggggaatgcg aaaatctcca aagacgcgaa ggagacggtg 420
caggaatgtg tgtcggagtt catca 445

<210> 543
<211> 682
<212> DNA
<213> Pinus radiata

<400> 543
aatttttcc tgtcaaagca ctcgagaatt ggggtttgtg gaagattgct attgaaagat 60
ctctgtgtgc aactctgagg tctgggatgg tgaaggaaac cttcgcgttg ttgaaagaca 120
ataacaacaa caatcatgac gaaatattgc cttcgtcggt gaagcttcaa gggcggcaga 180
cttatagctt gtaaaagttt tgcctttagg gttttgccat tagtgttgca agcctgtaaa 240
ttataatttg caggttccat ggccacgcgg aatccctttg acctgcttga ggatgatgat 300
aatggcgacc cgtcgtcatt gctggacacc ctcgctgctg caaaggacaa gccggcggca 360
gtggctgcca agaaacagca gccagcagtg tcggcgagcg gaaaactgcc gacgaaaccc 420
cttcccccgg cccaggctgt taaggaatcg agggtttctc caaatgaggg gggcagggga 480
cgaggtggcg gtcgaggcgg ccgtggattt ggcaacagag aatcgcagga gtttggacgt 540
ggccgtgggg gaggttataa tgttgaacgg aacttcaacc gcgagaacaa tgcctattcg 600
ggttctcgtg ttgggttcta tgacaacaat tctgatttga tccccagccg caatgaggat 660
ggagatggag cttcgaacga tc 682

<210> 544
<211> 372
<212> DNA
<213> Pinus radiata

<400> 544
gtttcctcaa cctagtgagt aacattcgtg aattcgttat gcaagtagct tgcggaaggg 60
cacttctatc atgttattct tattccgagc tactgtcagc tatatgatgg acctgtgttt 120
tcatcactgg ctcacttcac ctgtttgagt atctgccatt tttggatgtt tgtgtaagct 180
tggctaaata ccagagacac aaagaaaccg tcctgtagcc ggagttatcg aaactattta 240
caatgccacg ggtgaaatta atttccagga acttcatgga catggtggca gcattaccgg 300
ctgcaaagtt agatcggctt tatgataagt cattgcattt gcgaagcggg ctgaggtctc 360
tgactcctgt gc 372

<210> 545
<211> 444
<212> DNA
<213> Pinus radiata

<400> 545
accgagtact gagtttcgaa gattttcata atacagcgag aatgaatttc aggcacttga 60
aaagtatcgg aaaaggacgc aagcatagcc ctatgttgtt tgtccgagtc aaatgaagca 120
ctgggattcg aatctttgat cacaaaatgg caaattatac ctttaagcat gcaggcccag 180
ctcattattt tcactctacg aattccgttt actatttcat gaaccgggca tttatgggct 240
acaagcgact tttattataa ggcttctttc ttctctttga ctttcatata gctgacatga 300
atggcagaag agatggacac accgacaaaa acaacaaaga cgcctacatc acaggaacaa 360
acttccacaa gcactcccgt ggcttatcct gagtgggctg caccaataca ggctctatat 420

aattctggaa agacaccact ccct 444

<210> 546
<211> 570
<212> DNA
<213> Pinus radiata

<400> 546
tcgttctcaa gcaccaggga gagcatggaa aggcgagatc agagtccggt tgcagctcgc 60
caccccatga gaaaacacta cagaggagtt cggcagaggc aatggggcaa atgggtagcc 120
gagattcgcc tccctcagaa tcgaacccgg ctctggctcg gcacctttga caccgcagaa 180
gcagcagctc tagcatatga ccgagctgct tacagatggc ggggtgagtg cgctcggctt 240
aatttccccc atttgttctc aaaaaagtat cagaattcct ctcccagctc caccaatggc 300
aggattcctc gcctttcttg tgaaaaatct gatcagaaat atgcatataa tggtgaccca 360
gttcatacga atgtatataa gggtccccca attcggataa ctgcatacaa cggcgaccca 420
gttcctatag atgtatatag gagtgaccca gttcgggtaa gtgcatatac tggtgaccca 480
gttcggataa gtgcttatag tggtgatcca gttggcaata ccgttacttt agcggaatcc 540
gagcttgaaa gctcctgcag ccatgaatcc 570

<210> 547
<211> 532
<212> DNA
<213> Pinus radiata

<400> 547
cttgattata tggaagaaca aaattgggat ataaatggag caaaatatga tggttcagaa 60
aagtggaaag ctcatagtag tgaacaaaag gatcttggta caataccaac aaaggtggaa 120
ggaaggattg gcaatagaga gaatagttta gatgtcacac gtggtggggc tctttgggac 180
atttttcgga gagaggacat accaaagtta caggattatt tattaaagca ctgtcaagac 240
ttcagacata gcagaaatgt atctgttgat tcggttgtcc accccattca tgatcaaact 300
ttttacttga atgaaggtca taaaaagaaa ttgaaggagg aataccaagt agaaccatgg 360
acatttgaac aacaccttgg tgaggcagtt tttattccag ctggatgtcc tcatcaagtt 420
agaaacttga agtcctgtat aaaagtggct ttgaactttg tttcacctga aaatttacaa 480
gaatgcattc gtttagagga tgagttgcgc ttgcttccaa agaatcacag gg 532

<210> 548
<211> 447
<212> DNA
<213> Pinus radiata

<400> 548
agggtccccg cgaaatgact gaagaggagc gggagacgaa gaaggccgcc agtgtggccg 60
ccacggctgc cgaccaggag ctcaggaaga aagtgctgcg ggatctgcac gcgctgatta 120
atcccaacgc gactggagag gcggatccgg cggagtttcc aggggatgat gctactgtag 180
atggggaagt cacggacgcc gagtggtttt acttggtgtc catgatgaag tcatttggaa 240
atggcttggg ggtgccggga caggcatttt gcggtggcat gcctatttgg atcattgggt 300
cagaaaagct tcagagctac aactgtgagc gggctcgtca ggctcagcaa ttcggcattc 360
aaaccatggt atgtattcca acacctaatg gagttgttga gttgggttcc acggatttaa 420
atccgcagaa ctgggatttg atacaga 447

<210> 549
<211> 1163
<212> DNA
<213> Pinus radiata

<400> 549
gtggtctaag agctgatagt ttgtttttaa gtggtggttt tttctggata tttttcctga 60

atattagcgg tttctattcc tgcggaaggc agcagcagct ggtttgaaag cagcagcagc 120
tgttttggaa acaaaacaat gtgtggaggt gccattatca aggaattcat tccggccaat 180
cgatctcggc gtgtaactgc tagggagctg tggccggatt tcgacacgtt cgctgaattc 240
atcaatggcg gagcaacgca agaaacattc aataaacctg gcaagttgga cgagggatgc 300
aagcagaaga gtaagcccag caagggttct gtcaagaccc agcaggaatt ttgttccggg 360
tttgaaggtg ggagaagtga ggtgattcct cctttggaag atgtggaagg gtccacaccc 420
acgattgggg ggaggaagag aaaaaatgtt tacagaggta tcagacagcg tccatgggga 480
aaatgggctg cggagattcg agatcccagt aaggggggtta gggtttggct tggaacgttc 540
aacacggcag aggaggccgc caaggcctat gatgcagcgg ctaaaaggat ccgaggtaag 600
aaagctaagc taaattttgc tgataactcg tgttctgtta aaaatgacac tagcaagaaa 660
ttgtcaggaa agaaaggaaa gttgtgctca aaacaccctg ctttgttgtt agagggtttc 720
aatgcaagct gtaaggtaaa accctcatat tcagcaaatc ctgatttatt agggggttac 780
aatataaaca ggaaagtaaa agcctctttg agtggtgtcg gcaaatctga tcttacaatc 840
tgtggatacg atgatatgga atatggtgac tctgggttct caaaacccag tgccccattc 900
caaaacaatt caaatgcatg cacggtccaa ttttctgagc atagcaattt aacccaaact 960
tcgcagaaat cgtgctcttg tgagatctgt agtcacaatt actcagagat gagcaatgta 1020
atgcctcctg cttatggcaa tgctgtaaat tttgaaccag tgcaaacttc caatccagga 1080
ggttattttg attctgacca tagcagcatg tcatttgaag ggcgcattt cccatgggct 1140
caagaaataa agacgccaga agt 1163

<210> 550
<211> 545
<212> DNA
<213> Pinus radiata

<400> 550
cagctaaaac tcttcatccc tgctgggatg cataccagct tgaggacgaa agagcaagtg 60
ctgtttatat aaatgtattt tcgggggatg ctacaactga atttcccagt gcattgcaac 120
tgggcagagg agggattttg gcagatgcca tggggcttgg taagactgtc atgacaatat 180
cactactgct tgcaaattct ggcaaaggtg gctttagtgg tatggatact gtggagccct 240
ttagtgcgaa cagctgtagt gaaaaaacaa tcattcatcc ttataatata ggtgtagagc 300
tgggaccatc acagtacacc aacaaaacac aaggcacaag tatgctaagg agatcaagca 360
gtgggttaca taaaggaggc gggaatctta tagtatgtcc tatgacatta ttaagtcaat 420
ggaagacaga acttgagacc catgtacagt ctggaaccat gtccgtgtat gttcattatg 480
gacaaagtag aacaaaggat gttaaaagtc ttttgcagca tgatgttgtc ttgaccactt 540
atggg 545

<210> 551
<211> 353
<212> DNA
<213> Pinus radiata

<400> 551
gcactacaag tctatacctc ctccatctca tgttataaat accagttggc ttctttctgg 60
tctctttgca ttattgattg gctggctgtt ttctctcttc tggacctcga tcttcggtct 120
tcatcgatat cataatctct acctctatct ccatcggggc ttcgttgcct ctgtatgttt 180
gtaggtatga tgtccgaagt tggcagccca acaagccagg acagccgcaa ctctgaggat 240
ggagaaaggg agaactgtgc tgtgagagag caagataggt tcatgcccat tgctaatgtc 300
attaggataa tgaggaaagt tctacccacc catgcaaaga tttctgatga tgc 353

<210> 552
<211> 448
<212> DNA
<213> Pinus radiata

<400> 552
caaacaatcc gtgttttggg agcggagagc aacggggagg ggtctttcat gggttttgag 60

cagacgagag gaggaggagg aggtgcgaag atgacgcagc atcaggtggt aactacggag 120
ttggtacggc aggcaactga gcgcttacga aagctttgca ggacgggagt caaagtcgaa 180
ctcagagatt tttttcaact ctgcatcgtg ctcgccaagt caattgattc tgcggttgta 240
tataaccaaa ttccgactat ggtgcatgag ttgccacaat tagtgagaca ggtttttgaa 300
cgcaaagatg atattcgact tcaaccagca atcatggttc ttatgctctc tgtgaagaat 360
gcttgtcgaa gtggttggtt tcgtgtcacg gacacagatg aactgctaac catgtcaaag 420
gagctgtcaa gtcgctttac gagtacgg 448

<210> 553
<211> 883
<212> DNA
<213> Pinus radiata

<400> 553
tttttattca aatgacagca cgacttccct tcctcagatg tttcccaggc tgcactcatc 60
agctgcagca ccacgcggtt ttggattctc cctgttcttt gttctgttgc gttaaagatt 120
ggttgcaggt cgaatcgccc aggccgattt gaattctcct gaggattgac aagatgacgc 180
gcaagtgctc gcactgtggc aacaacgggc ataactccag gacgtgccct aaccgcggcg 240
gggtgaagct cttcggcgtt cggcttaccg atggcccgat cagaaagagc gctagtatgg 300
ggaatttgat gatgatgtcc aaccctagct ctcccgctga cccctccgag ccggcctctg 360
ccgctgctgc tgccgcggcg gcggcggcca gtggctatct ctctgatggt cttgttgaag 420
cctccacttc ctccaattct cgcgagcgga agaaaggtgt gccatggaca gaggaggaac 480
atagaatgtt tttgctaggt ttgcagaagc ttggcaaagg tgattggaga ggaatagcac 540
ggaattttgt cataacacga acacctacac aggtagccag ccatgcacag aaatatttta 600
ttcgacagag caatatgact agaaagaaga gacgttccag tctgtttgac atgacgccgg 660
tgagtttttt cttcctgtct taaattcttg gtgtggtggg catggaaggg attcaggagg 720
cgtcttgggc aaagatccca aaaattggat ttgcaatcaa tcatgattca taattgttct 780
gaaaattatg ctaagaacta atctcatctt tcaaacctca aatggtattc ttttgtttga 840
agttgtttct aagtttcttt aatgtctatt cataatttca ttt 883

<210> 554
<211> 310
<212> DNA
<213> Pinus radiata

<400> 554
gtgagttcta ggcatgagtt tgcagtatcg caaatggcct acttacaagc tttgaggaat 60
gctggcgcaa ccccttagaca atttgcagaa ttagaatcaa tggagcttca gaagacttca 120
ccttacccac atcttcgcca ttatcgggtc accttgcccc cttcacctcc tcctcttccc 180
ccacctccac cacctcctcc tccattgtct ctcacccctt ctcctagtta tggatctgca 240
acttttcctt ccagcatccc agtcaatcga agcatctaca gatgtccgta tcagcaatgc 300
tcaccatcat 310

<210> 555
<211> 463
<212> DNA
<213> Pinus radiata

<400> 555
gtcaacttcc agatgaagct attgctcttg cagcagcatc ccatattgag agggagctgc 60
agataacatc atggaatctg agctgcaatt ttgttgcctc tactttgcag ggtcgtgaat 120
gtattgagcg cctggagatt acagggattg gagatccatc aggacgggga cttggtttta 180
gttatcttcg agttgctcca aagccaccaa tatcgagtgc tttggttaaa aaaaaggcag 240
ctgctgcacg tggtggttcc gcagttactg gtactgatgc tgatctccga aggttgagta 300
tggatgcagc aagggaggtg ttgctgaagt ttaatgttga cgaggaacaa attgaaaaga 360
tgactaggtg gcatcggatt gcaatggtga gaaagctttc aagtgagcaa gctgcttcag 420
gcgttaaagt agatgcaaca gcattgaata agtttgcacg ggg 463

<210> 556
<211> 496
<212> DNA
<213> Pinus radiata

<400> 556
agatgagtgg agtgagttcg gctcggagct gtgtcgaggt tttgttgggc agaggctgct 60
ctgtggagcg gatcgctcgc cgtttgagtc gggtcgcaaa cgggcaattt gcgatgtgga 120
atgtgcagaa ctgtggaagt agggttaatg gaagacaatt gtgcttctga tgatcgggag 180
catatagctt taatcgatta tacgtttgct ctttgttagt tcattgggtt atagttgttt 240
cagtggagta gcgtgcagca gtttgatcgg cgaaaatgaa gagtccttca accagctgcc 300
tttctcatcc agtggagggg gagcagaaga gcataaattc tgaactctgg catgcttgcg 360
ctggacccct tgtttccttg ccctcagtgg gtagtgttgt gtattatttt ccacaaggcc 420
acagtgaaca ggttgcagct tctactcaga aggtagctga cacgcacatt ccaaattatc 480
ctaatcttcc ttatca 496

<210> 557
<211> 642
<212> DNA
<213> Pinus radiata

<400> 557
cctcaaggta caatgggatg aaatatcagc aattgcacga ccagagagag tttccccgtg 60
gaaattagaa ccttcattaa ctccagtggc agtgaatcct ctgccagtag ccaggggcaa 120
gaggcctcgg ccaaatatat taccttcatc ttccgattta tcagtgcatg acaaggcccc 180
agtggattct actcaggtgc acaggtttcc aagggtcttg caaggtcaag aagttatgac 240
cttgggggga tctttgggtg acggtgagtt ggagagtggt caaaagatgg ttgcatgggg 300
cggatcaaaa ctggatgatg tcaaagcaga aggtatgggt tgtcaaagaa ggttggtttc 360
agaaaattgg atgccgccac ttaggcatga ctcactatat tcagatactt tctcaagttt 420
tcaacctgtg ggggaagtgc aagaattccg tggttcatta acaaatagta tcctggaaga 480
tggccagcag ccaaagcttt caagaaaaca gtttcaggac caagagggta aaattgtgga 540
tggatcagga ctgtggtcaa tgagttttcc aaacagctta caattgtgcg agtcaaatag 600
gaagatgtct gcgacctctg ctgcccaatc gcacaagcag ag 642

<210> 558
<211> 653
<212> DNA
<213> Pinus radiata

<400> 558
ggaattgaca agtgatagtc acaggcaagc aacacttcag ttggaagctg aagttacagc 60
gtggcacatc agtttctgta gcttgataaa aagtcaacag gattatattt gtgccctgta 120
tgagtgggca cgtctaagtc ttgttcagct tgggaatgaa gcacagtggg aacgaggaaa 180
ccgcccacct atttatactc tttgtgatgt atggcaacaa gtacttaaaa gattgccaga 240
caaggttgct tctgagtcca tcaaaagctt catctctgtt gttcatgcta tagtgatgca 300
gcaagctgat gaacaaaagc gcaagaagaa agcagaaaac atttctagag agctgcaaaa 360
gaaaatgatt gctttgcgca atattgaaaa gaagtattat agttcgtatt caatacctgc 420
tagggcagat gctacaacag agtctcaatt tgaattgggt cacacagatc ctttggcaga 480
aaaaagagca gagattgaaa tatataaaag gcggttagaa gacgaaaagg ccaactattc 540
aaaatccgcc agaggaacca gagaaatgac cttaaataat attcaaacag gccttccagg 600
tctattccaa gcactgagta gtttttcaag tgtgtgtgca agttcctttg agg 653

<210> 559
<211> 100
<212> DNA
<213> Pinus radiata

<400> 559
atggctatgg gggaggcgga gcggatcacg gggccatgga gtcccgagga ggacacatcg 60
ctgcacaagc tggtggagaa atctgggcca cggaactggt 100

<210> 560
<211> 385
<212> DNA
<213> Pinus radiata

<400> 560
gttggcgccc tgcaaaattc gccagaaatt tattgccgaa ttacttcaag cccaacaatt 60
tctcaagttt tggtcgccaa ctaaatacat atgggtttcg gaagattgta ccagacagat 120
gggagttctc aaatgagttt tttcgcaagg gagaaaagca gctactttct gaaatacaca 180
gaagaaaagg tctaatacaa cctcctccac cacctgagaa cagatccatt tcaccgtcta 240
actctggtga tgagcaaacg tggtcttcca cctcctctcc taactcttcc acgggggtgg 300
atgcccttag ccataagaat gcaattgaag aaaatgagaa actgagaaag gaaaatctgt 360
tattggtatc tgagctgaca caaat 385

<210> 561
<211> 328
<212> DNA
<213> Pinus radiata

<400> 561
cccacatgga ctgcagcacc attcctccga tgatgctaat ggcgatggcg ataagagaat 60
tggggtggag acaggcagct ctgtatgtcc agagctctgg catgcctgtg ctggccctct 120
catatctctg cctcctaagg gcagtcgtgt tgtgtacttt ccccagggtc acctggagca 180
gattgcagac aatgagcttc acaggggtgg ccgtggctcc ttcctcaaca tcaaccatgc 240
ggctgcaccg atggcagagg aagcatcttc tgcagcagcc ttgaatatac cgccatcgtt 300
cataagtcag ccgtgaacca acagatgc 328

<210> 562
<211> 440
<212> DNA
<213> Pinus radiata

<400> 562
aggaaacgct cacgctctta aagattagat cagaaatgga ttctaagttc cgcgaagcca 60
cccacaaagg tcccttatgg gacgaagtct caagggctct tgcggagcac ggttaccaga 120
gaagttccaa gaagtgccgg gagaaattcg agaatcttta caaatactac aagaaaacaa 180
aagaaggcaa agcaggaagg caagacggaa agcattaccg tttctttagc cagctcgaag 240
ctttgtacgg aggaacaact attgatgctg ccgacagttg ttttggcgta acaacacgga 300
caaatttaac cgaaagtcca ggcctggact ttaacggaga cggagcctcg cagaaatacg 360
ctgacactca ccacaacagc gagggcttta gtttgtcttc ggattcttct tcggatgacg 420
agtacagtca cgatatacag 440

<210> 563
<211> 359
<212> DNA
<213> Pinus radiata

<400> 563
ggaaagtcga acatagaaat cttctgtgca ttcatagaat aaatattcta caggctgcac 60
tgtaatttag gcgagaaatc gaataaaata tacatttgtt tgtttacgat ggagttggca 120
gatgagcatt ccatcctccg ctataagaaa cccaagctct ccaagaatgt cgtttccgag 180
cgccgccgaa ggcagaaaat gaacaagctt ctctacactc tgagggctct ggttcccaat 240

atttccaaga tggacaaggc atcgatttta gcggacgcca tcgaatatgt ggagaagctg 300
aagcaacagg tggagagagc tgagtctgac gttcaatcca ccaacgtctc ggctctatc 359

<210> 564
<211> 249
<212> DNA
<213> Pinus radiata

<400> 564
agggaattca acatcaatgc tgatgtctat gcacaggatt ccattgagtt gttgaagcag 60
agtgggattg atttcgagaa gaatgaggag aagggtatcg attcgcatcg tttcggcgag 120
cttctcatgt catcgggcgt tgtgttgaac gaaaatgtga attggattac cttccacagt 180
ggatatgact ttgggtacct gttgaaattg ctgacatgcc agaacctgcc ccccgaggaa 240
tcggatttc 249

<210> 565
<211> 542
<212> DNA
<213> Pinus radiata

<400> 565
agaaggttgg aatggcttag tccgctcatt tgatggcgaa cagatctttg tggggaggtt 60
cagactttga ttatgagaac gaagccgata cgaggaaggg tccatggact gtggaagagg 120
acatgcagct tggtattgta aatttgcacg gagaaggacg ctggaacttt ctcgccagag 180
catctggcct ccagagaact ggtaagagct gccggctaag gtgggttaac tatctccggc 240
ctgatctcaa gcggagcaag atcactcctg aagaagaacg tttgattatt gaactccatc 300
gccgttgggg aaataggtgg tctcgtattg cacaaagttt accgggaagg acggacaatg 360
aaatcaagaa tttctggaga actcgtatga agggaaaact aaactcagaa actcagaagg 420
acatcgccgg cgtggatgca gacgacggag tacagtttga aagcgaattg ggatcttgcc 480
gcctcccagt tatttcatcc catgcactgc ctgaagtaga cgttgcagag ccttcgagta 540
ct 542

<210> 566
<211> 358
<212> DNA
<213> Pinus radiata

<400> 566
gggacagtag ggaggaagag aagacgaatt catcgatcca gtattggtgt aactggtggc 60
agaggactac ggcatttcag catgaaagtt tgtaagaaag tggagagcaa gggctggaca 120
acatacaacg aggttgcatc tgaattagtg gccgaatttg tgaatccaaa cagcacacat 180
ctttcacaag atcagcaaca gtttgatgag aagaacatta ggaggagggt gtatgatgca 240
ctgaacgtac tgatggccat ggacataata tcaaaggaga aaaaggagat tagatggaaa 300
gggctaccta caacaaatct aagtgacatt gaacggctaa agactgagcg aaagaggt 358

<210> 567
<211> 722
<212> DNA
<213> Pinus radiata

<400> 567
atgcccccga gcatttgcca gggcttacaa cttgaagacg cacatggcca ctcatgaccc 60
caaccgtctt aaacctcatg tgtgccctca ccgctcgtgt gcgcggtcat ttagccgcaa 120
gcatgacctc gggcgtcact tggtcagcat tcatcgtgac gattccgtgg tttctacgcc 180
ctctgcgtca atgaagtcta ttggtgtcga cagtggccgc aggagttggt gtgacaactg 240
cggcaaagga acaatcggcg catcgtgcca gtgttcatgc gccgatatca agtagttgcg 300
gatcgcgttg ctctgtttaa acactatgcg tatatgccat gggcgagtat atttcgccac 360

tcgcttcgtc gcagtcgatg gttgattcgt ccactgcgtt cttctgacgt atcattcctc 420
tatctgcgct atttccgacg tgttgcgtat cgtaccgttc agccatagat gctgaaccca 480
gtgacgaacg cgatcgcgag ttgcctcatt tattcgtgac ccaccacggg ctggacacta 540
tttgtctaac tatctcgctg ggatacttta tctgttgtta actccttatt caacgattct 600
tatgagccct tcgtaactta gcagatccca ttttccttaa cttttcatta tattttggaa 660
ggcgcatcgg cgtgattcca ccaatactgg aaataccatt atttatgcat ccaaaaaaaa 720
aa 722

<210> 568
<211> 489
<212> DNA
<213> Pinus radiata

<400> 568
ccacgctcca atttctgta gagtcgcgag gaatttccaa ctgagggtta ttctgaagga 60
aaacaggcgc cgggagacat ttgatgggtt cttgagagag gaccacgaga aagtatccca 120
actggtcact cagcactaca aggtccagct cgagaccaag gaaatcagcg tcaagggatg 180
gaactgggga tctactgatg ttcaaggcaa cgatctcgca tttgtcgttg caaacaggac 240
cgcctttgaa gttcctctcc gatcaatcac caactcgaac atcgctggaa ggacagaagt 300
ctctctggag tttagcacgg cgcccgcccc atcagctagc aaatccaaaa agggccgccc 360
agacgaattg acagaaattc gattctatgt ccctggcacg cataccaagg acgatgacga 420
cgaggctgat atcaccaaag atgacgagga ggtttctgcg gctcaggcgt tccatgacat 480
gatcaagga 489

<210> 569
<211> 490
<212> DNA
<213> Pinus radiata

<400> 569
ggttctggtg gcgtgaaaat ggaggatcat tctcctgtca tcatcaactc tcagtcaggt 60
tattgccagt cccagcagtc atcacagatg cctttagctg gctacatgtc acctcatggt 120
attcccattc agcacactga cgatgccgcc tcgaaagaga ctcagtacct tcgccggagg 180
tgcttcaatt gccacaccac tgagccaccg agttggagga gatcgacact cacccccggg 240
aagattgttt gcaacaagtg tggtctttat gagcgcactc atttgcgacc tcgtcctctt 300
cgttttgatg aactgagagc aggcaacaag tcgcgaaagc aaacaaagtc aagtcccaag 360
ggcgcaaagg tcatcccccc ggggcccctt cctatcaaga aggagcctgc tgagatggag 420
gcgatctcgc ggaggatgtc tgtttcatcc agctcttccg cccaatccgg tggtggtggg 480
tcgagtgact 490

<210> 570
<211> 447
<212> DNA
<213> Pinus radiata

<400> 570
aagaaaccta cttggggcaa gagctcagcc catgaaactt tctgctaaaa atgattcaaa 60
actgggtatt gcaaggcctg ccaagctcta cagaggagtg agacagaggc actgggggaa 120
atgggtagca gagatcagat tacctaggaa tagaaccagg ctctggcttg gaacttttga 180
cacagcagaa gaagcagcgt ttgcatatga cacagcagcc taccaactac gtggtgagta 240
cgcaaggctt aattttccgg acttgaggta tcttttgctc tcaaattcgg ataacggtag 300
ccataatgtt ctttcgccac cgggtaatgc gttatctgtg ctgaaatctt ctgttgatgc 360
aaagctccag gcaatttgcc agcgtttatc ccaggaaaat tcttcagaaa atcgtctgat 420
ggcacacagt gccaacaatg aagctct 447

<210> 571
<211> 146

<212> DNA
<213> Pinus radiata

<400> 571
```
cgtttctgga agccctagaa aagagagaag aggatagaat gatgagggaa gaggcctgga     60
aaaggcagga aatggcgaga ttgaacaagg atcaagaatt aaggtctcag gaacgttcta    120
tggctgcttc aagggatttg gcatta                                         146
```

<210> 572
<211> 767
<212> DNA
<213> Pinus radiata

<400> 572
```
gtcgccctgt caaataatcc cttgatcttc agcgctaagg ttgaaaatgg tactcctagc     60
tatgatggtc tgaagcatgc taatacgaat cctatgccat tttctgggtt gggtaatgtt    120
tccatgggcc ctttgtttta tcaagcaaat ccaatccagc gagtcaagag agttagggac    180
actagtttca tcatgggacc cccttccagc cctttcggtc gcatgggtgt gaatggtcac    240
atggggatga atgatgtcag taagagcttg cagcctggtt ttaaggccag agttccttac    300
cccctccaag ctgctagatc ggattcattc gttgctcaag gctgctttcc ctatgaccct    360
aatctcagca gcactagtaa tttgcccctg ggagggtttt catcaggcag ccatgccgtt    420
atgaatggta ctttctcttc ttctaggctt ttttctggcc agaagctgga gctcccttca    480
agccaatttg ctgagtctgt gcagactgca ggctcaagca tcaatccagt tttaaatagg    540
agcactcctc ttttgctgcc gcccgttcct actcagacga tcaatcaagt agactacagc    600
ttctctacgc caaaaaatag tgggttgtta gaatctatgt tccaagaagc tcaaacaatg    660
ggtggggtta aggctcattc ctcctcaaat tcctcgattg acctgcaggg gggctccaaa    720
agcagtatca gtaacccact gaacaatggg ttcctatgca gatcaag                  767
```

<210> 573
<211> 445
<212> DNA
<213> Pinus radiata

<400> 573
```
gaatcaggat ggaggagcct ctgcaaatta taaattcatc tccgatacag cagcagcatg     60
atcatgatga tgatgatcat gggcatgggc atgaggagga ggtaattccc caccctctgc    120
ttccccctcc tggcgacact tgtattgttc catacatcat gcccgtttcc acctctaccg    180
cagaaaaaca ccctccccag ccaaccaata tcgcctttaa cggcccggaa acagaggaag    240
acgacaagaa acgggataga gagcacaaga agcggtccaa gaactggacc agggtcgaaa    300
ccctcaagct tataaagctt cgaacagaat ttgagcccag gttttctcgc agcggaagaa    360
agacggaact ctgggacgaa atagctgagt ctctgcgaaa agaacagttt ttcagggacg    420
cccagcagtg cagagacaaa tggga                                          445
```

<210> 574
<211> 731
<212> DNA
<213> Pinus radiata

<400> 574
```
cccaggtgtc aggaatatac aggaccctcg gaaaaatggt gaattgggct gaacaaagag     60
atcagaattg aggtgagaag agcaggcaat ctctgatcag aagaattggg tacttggaat    120
cgatggatca gcagcagccc acaataccag cactacctca agtgggttat ggcacaaatc    180
catatatagc cctccgatt ggggggtcctc cacacccaca attagcatca taccatcaac    240
agcttcaggc cttctggggt aaccagatga gggaggttga gcaggcgcag gacttcaaga    300
cccacagcct gcctctggcc agaattaaga agatcatgaa ggcagacgag gatgtgaaga    360
tgatctctgc agaggcaccg gtggtgtttg ccaaggcatg cgagatgttc atactggaac    420
tgaccttgag gtcatggatt catacagagg agaacaagag aagaactttg cagaagaatg    480
```

acatagctgc agccattggt aggaccgata tatttgattt ccttgttgat attgtgccta 540
gagatgaatt caaggatgag gggttggtga tccctagggc tgcgggtgcc gtgcccttca 600
tgggtcctgg ggataacgtg ccatcttatt actatgttgc acagcaagct cccaacgtgg 660
cggcttatgc tcctcctact cagcaaatga ggtccaaagc acccgcacct cctcctcatg 720
gcagcagttg a 731

<210> 575
<211> 441
<212> DNA
<213> Pinus radiata

<400> 575
cagggatcat tgactctgcc caggactcta agtaggagga ctgtcgacga tgtgtggaga 60
gagattcata aggaaaacat tgatgggaat gggaatgcgc cggcgaatca ggccaggcag 120
ccaactttcg gagagatgac attggaagat ttcttggtga aagcaggggt tgtgagagag 180
gatgcagagc agggagatgg gcagtcattt ggggcgtttc ggaatgctct agatggggaa 240
tttgtagcaa atttggcaga aagaaatggg gataatagat taggtatcgg taattcactt 300
ggccttggat ttggtgaaag agggcatagg aatggagaag tgggtagtaa caagagtgga 360
gcagggggcg tgcctggact ttctctgtct cctactaatg tcttcctaat catgctgcca 420
tggatatggt gaatcttgat g 441

<210> 576
<211> 271
<212> DNA
<213> Pinus radiata

<400> 576
tttcaaagga gaaaaaagaa atccattgga aggggttgcc taaagacaag tataaatgat 60
gttgaacagc ttaaggctga gaaattgctc ttgaaaagta ggattgagaa gaaagcatct 120
tattttcacg aactcgaaga acagattata ggccttcaaa atctggtgaa acgaaacgag 180
catagatata gttcagggaa tactccatct gggggtgtat cgttaccctt catattggtc 240
cagactcatc cccgtgccac tgttgaaatt g 271

<210> 577
<211> 315
<212> DNA
<213> Pinus radiata

<400> 577
gggattcgca gagctaccag acagaaaagt ggtattctat cttcagttct ttctaaccag 60
aatgcccatc tcagtgtgct tgctgctgca gctagtgctg ttgccacaaa gagcatgttt 120
catgttttct acaatccaag gacaagtcca gcagagttca ttataccttta tcagaaatat 180
gtgaaaagtt gcaagcaacc attgtctatt ggaatgcgct tcaaaatgag atttgaaaca 240
gaggataccg ctgagagaag gtacactggc atgataactg caataggtga tgcagatcct 300
gctagatggc ctggt 315

<210> 578
<211> 384
<212> DNA
<213> Pinus radiata

<400> 578
caagataccc actctgaacc aatggctatg gagatgggat tagtcattga cggagatagg 60
ttttcctcag agggtgatgg agatattatg ttggatggcg aggatctgtt gccagaaatc 120
aacgatatgt tttgggaaca atttcttgca gagagtgcaa cgtcaggggg aacggaagag 180
gctgagtctg cagcgcagga aagtcttacc aaagatcagg atgagaaacc atctgaaaat 240
gggaattggt ggaaaaaaaa tcaaaatatg gataatctca cggaacagat gggtcagctg 300

gcatcagaat caaatccttg agatttgtat cttgggatag atgcatattg tggagggaag 360
gatttccttt cccaatttgg ctag 384

<210> 579
<211> 434
<212> DNA
<213> Pinus radiata

<400> 579
gcgatggagc tgttagggat gcagggaggc tagtgcctgc ccttttctg gtgaagatgt 60
atcgtttagt ggatgatccc tccacaaacc acatcgtttc ttggggagag aataacaaca 120
gcttcgtggt atggcgcccc aaagagttct ctgcgtctgt gctgccatgc tatttcaacc 180
acgccaattt ctccagcttt gttcgacagc tcaataatta tggatttcga aagacatttc 240
gcgggcagtg cgagttttcg aacaaattat tcgagaaggg caagcagtat ctcctttgtc 300
atatccatag aagaagagcg tccaatagct cgcccatgcc gatggaatat ggtaaatcat 360
ctttattatt cccaatcatt ctacctacac aacactccaa tgttctggca gcgcctctgc 420
cttcttctct gtca 434

<210> 580
<211> 322
<212> DNA
<213> Pinus radiata

<400> 580
aaggaacgga tcttaaccga agagaacctt tttcttcgta aaaagtgtgg tgatgaacat 60
gtggattgtt cggcttttag aacacctcca gcacaactta gaagcatcca gaacattgat 120
gtggagactc aactggttat aagacctcca actgtacaac agcaccctga cgtcgatagt 180
cctcgataac tgttgcatat gcaaattttc tactttcatg aaataaacaa acagtacacc 240
tcattttgtt cgccttttgt aaacgtataa ttactactgc atatgtaagc tttcctctca 300
aaaaaaaaaa aaaaaaaaaa aa 322

<210> 581
<211> 448
<212> DNA
<213> Pinus radiata

<400> 581
aggatccaaa tgcgccaaag aaagccatga ctggatttat gttcttttct caagttgaaa 60
gagagaatct gaaaaagagt gacccaggaa tggcatttac tgatgtggga agaacacttg 120
gagaacggtg gaaaaaaatg tcagctgagg agaaagctcc ttacgaatca aaagccaggg 180
ctgataagga aaggtacaag gaagcaatgg ccgattacaa aagtggtcca acaaatgtgg 240
actccgggaa tgaatctgat agtgaataga gcatcatact tacaagttca tattaacatg 300
gctagccgtg taaagtaatt gctttcattt aaatgctttc accctctggt gcaatctttt 360
tacattcact tgagaatatt gttggtgtac ttcacattag caaaaagcaa gcttacaact 420
gagtagtgtc gagggatata cctacatg 448

<210> 582
<211> 321
<212> DNA
<213> Pinus radiata

<400> 582
accttctttt tggagtcaac atagattcct cgtctttgat tgttcctaat acagtatcaa 60
acatgaggag tattggcagc agtactgatg cagtcatgca atttggtgtt tctaattatt 120
tgaatgcacc tccttgtgct tccggttcca atatttcatt gaattcagac atcagtgctt 180
ctgcatgttt agatgaaagt ggacttttac cacccgctga aaatttggga cagatgaatg 240
cacctacaag aaccttcata aaggtttata agcaagggtc agtcgggaga tcgctagata 300

tctcacgctt cagcagttat c 321

<210> 583
<211> 739
<212> DNA
<213> Pinus radiata

<400> 583
ctgaattcta tccggttggg tattaaatta aggtgattgt tcgctacaga cgttctgtgg 60
acaccgagtg agtctcctag ccttggaatt tggcaccatc tcgtcccgca gccatttcag 120
ttcgatctcc cgccgtcaca aaaaataatc cccaattctc cagctgtccc tgccgtgtct 180
gcacgcgaca ggtctgcccg ggctttggtc tgtggaattt catgccaatt tatcacctat 240
aaactccacc cgcatctgcc cacaaacccc acaagtcaca cccctcttcg tcttctttga 300
aatctcagat gggttctgcc aattagctcg gatccttgcc tcttcagttg gttttgtgag 360
cacacacgag gccaggaccc gggtatcaac gattcccctc aactgacgta acccatggcg 420
accactcggc atcagcgcag tcccgatagc agcccgcgct cggaggatga atcaggagcg 480
cacacgtaca gcaaccagga tggttccgtg aaggaacagg atcgatttct gcccattgct 540
aatgtgagca gaatcatgaa gaaagccctt ccagctaatg ccaagatatc gaaagatgcc 600
aaggagacgg tgcaggaatg cgtttcagag ttcatcagtt tcatcactgg ggaagcctct 660
gacaagtgtc agagggagaa gaagaagacc atcaatgggg acgacctgct gtgggcaatg 720
ggaactctag ggtttgaaa 739

<210> 584
<211> 413
<212> DNA
<213> Pinus radiata

<400> 584
aaatctgact atcgggatag tgatgatgaa ggaggaggta ctgttcgaga aggaaaggat 60
ctgcaaacct caaatttcat cgattatttt ggtcaaagta atcatacaga agaagcagaa 120
aatgagcatg atgcatcagt ggataccaaa gggcccctgg aatccagcaa tgaagtcggc 180
catcctacca catacccega atcttcttca ttgtcagcgc aaggctctga gcctcgagtt 240
ttttcctgta attactgcca gagaaaattc tacagctcgc aggccttagg aggccatcag 300
aatgctcaca agcgagaacg caccttggca aagagggggc aaagaattgg ggcttttcaa 360
cacaggtaca taagcatggc atccctgcct ctccatggct ctacagaatc agc 413

<210> 585
<211> 622
<212> DNA
<213> Pinus radiata

<400> 585
ggtctagggg aaaagctttg aaattatttg ggtttgagtt tagagggtca gaaggtggat 60
catttgaagg gactaatggt tctgatcagc cacaagatgg gactaatata ttaactgcag 120
gtgaagcatc cactgagcca gtggaggaag aactagtgat tgaggccaaa aatggagatt 180
cagggaaatt agaagatgtg ggtagtccag tagaggctgg agaaagtggt agcactagca 240
attgcctggg atcatctgct caagaaaatc ggaaatatga atgccaatac tgttgcagag 300
agtttgcaaa ttcgcaggct ctcgggggcc atcaaaatgc gcacaaaaaa gagagacagc 360
aggccaaacg cgcgcacctg ctggccacca ggagcgctgc tgcgagtgcc aacagaagtg 420
gcgccactgc atggtgcggg aacataaacg gtaacctcta ccatagaaat ttccttttca 480
ataattccta cttcacacgc atgcaggtgt ttcaagaaga tttcccgacc tttcagaccc 540
cacaggctgt tgcagctcca tcaatcccgc attatatctt cagttaccag cagcagcagc 600
aggcgcccgt gcagagtcgc tg 622

<210> 586
<211> 349
<212> DNA

<213> Pinus radiata

<400> 586

```
tgtaccggaa aattccaaac aaataatcaa ccatggactc atattgccgg agatgggctc      60
agtggacagc gggcgcgaag gcacgagagc aattttgtcc gatgattgtg tgaaattcga     120
atgccgatat tgttgtaggg ttttcccgac gtctcaggct ctcggcggcc accagaacgc     180
ccataaacga gaacggcgcc gggcaatgac gaggtttcag agatcgccct ctgacagttc     240
aaactattca ggaaaacaga atagtattga tctgtttagc cgtgagagag ttcccgggtc     300
ttctctcctt tcaccacacg gtacgaggga tcatgttgtt tgcagtgac                349
```

<210> 587
<211> 368
<212> DNA
<213> Pinus radiata

<400> 587

```
aaaaaggcgt cagaatgggg tgagtctgta gtaagtacaa gcgaaaacag taatgacttg      60
gatcctccta cttattctga aacctcttcc cctgctcaag gatctgatcc tcgggttttc     120
ccctgtaatt tctgtcaaag caaattctac agttctcaag cattaggagg tcatcaaaat     180
gcccataagc gtgagagaac tttggctaga agggcacaga gaatggggtc ttttgcacaa     240
agatattcaa gcatggcatc acttccactc cacggttcct cggaaacaag ttggacgccc     300
agtcggtttt tagggataaa agcacattct ttgattcaca aacctttccc tgaaggtgat     360
aacctgcc                                                             368
```

<210> 588
<211> 516
<212> DNA
<213> Pinus radiata

<400> 588

```
ttcagatcta taaatcaatg tctgcattaa tgacaaacta agttgaaatt cccaaatgtt      60
ggtggttact atttaggatc ggacattagg cgttgtggtc tcgggttcga ttcacaaggc     120
atttctgttt cggaatttca aagcaacacg tatcagaaaa ctgattctat actgtgatga     180
cgcaggctac taactacaca gcaggtacca tcagagacga tcaagaggag caatgtgtga     240
ggaggggacc ttggactgtt gatgaggaca tgagccttat tcgatgcgta accacccggg     300
gtgaaggtcg atggaacaca gtagccaaat ttgcagggct aaagagaaca ggaaagagct     360
gcagattgag atggcttaat tatcttcggc ccgatgttaa acgtggaaac ataacgccgg     420
aagagcagct attaatcctt gaactccacc gtctctgggg taacagatgg tccaagattg     480
cacggcaact cccaggcagg actgacaacg aaatca                              516
```

<210> 589
<211> 340
<212> DNA
<213> Pinus radiata

<400> 589

```
gagaactagt ctcgagttag ttatttgatt catattggtt gcagaggatt ttcagagatt      60
gatgatgagt gctgaagctg ctatggagag ggagagttgt ttcatggatg aaatgcgcag     120
gccgcagagg aagaagaaga ccgacgcaga ggatgatttt gacgagtgtt attatactca     180
tatgtgcaag atttgcaaga agaagttcgt ctcagggcgg gcttttggcg gtcatatgag     240
aattcatggc cctgtggcca ctgccgccgc cgccgctgct gagagcaatg ggaaaaatct     300
ggagccgcag aggaagagat cccgtgctga agagattcga                          340
```

<210> 590
<211> 391
<212> DNA
<213> Pinus radiata

<400> 590
gttgggtgta aagggtctga cgcgtttgag gagagcttga agcattttg tagagtttgc 60
aagaggagat ttgcttgtgg gagggctctg ggtggtcata tgagagtaca tggagctgaa 120
ttgggtgcaa ttaagggtgg tggtttggaa gagcagtttg agaaggggag ggtgaaggag 180
cccagtagga gttgtggtga ttctgtcaag gaaggagtgc aggatgaggt agagggcttg 240
aattctatgt acactttgag gaggaacccg aagcgaagct ggaggtttgc agatcaggat 300
tactcttttg cctttggggg agtagatggg tctggggcta agagatttgg gtctacattt 360
ttgagggatt caagagtctg tgaggagtgt g 391

<210> 591
<211> 260
<212> DNA
<213> Pinus radiata

<400> 591
acgaaattac cttggggagt atactggaga gttgatttca catcgggaag ctgataagcg 60
aggaaagatt tatgatcgag aagactcctc cttccttttc aacttgaacg atcagtatgt 120
tcttgatgca taccggaagg gggataagtt gaaatttgca aatcattcac caactccaaa 180
ttgctatgca aaggtgatta tggttgctgg tgatcataga gtgggtattt ttgcaaagga 240
acgcattgca gccggtgagg 260

<210> 592
<211> 94
<212> PRT
<213> Eucalyptus grandis

<400> 592
Met Gly Glu Arg Asp Asp Leu Gly Leu Ser Leu Ser Leu Ser Phe Pro
1 5 10 15
Gln Gly His Leu His Gln Gln Gln Gln Gln Gln Gln Gln Gln Ser Leu
20 25 30
Gln Leu Asn Leu Met Pro Ser Leu Val Pro Ser Ser Ala Ser Ser Ala
35 40 45
Gln Ser Gly Phe Asn Leu Gln Lys Arg Ser Cys Asn Asp Ala Phe Pro
50 55 60
Ser Ser Ser Asp Arg Asn Ser Glu Ala Arg Ser Phe Leu Arg Gly Ile
65 70 75 80
Asp Val Asn Arg Glu Pro Ser Ala Gly Ala Ala Ala Asp Tyr
85 90

<210> 593
<211> 44
<212> PRT
<213> Eucalyptus grandis

<400> 593
Asp Lys Ala Arg Leu Val Gln Glu Thr Gly Leu Gln Leu Lys Gln Ile
1 5 10 15
Asn Asn Trp Phe Ile Asn Gln Arg Lys Arg Asn Trp His Ser Asn Pro
20 25 30
Ser Thr Ser Thr Val Leu Lys Ser Lys Arg Lys Arg
35 40

<210> 594
<211> 291
<212> PRT

<213> Eucalyptus grandis

<400> 594

```
Gly Glu Pro Leu Trp Ile Arg Ser Val Glu Thr Gly Arg Glu Ile Leu
 1               5                  10                  15
Asn Tyr Asp Glu Tyr Val Lys Glu Phe Lys Val Glu Ala Pro Ser Glu
            20                  25                  30
Gly Arg Pro Lys Arg Ser Ile Glu Ala Ser Arg Glu Thr Gly Val Val
        35                  40                  45
Phe Val Asp Leu Pro Arg Leu Val Gln Ser Phe Met Asp Val Asn Gln
    50                  55                  60
Trp Lys Glu Met Phe Pro Cys Met Ile Ser Lys Ala Ala Thr Val Asp
65                  70                  75                  80
Val Val Cys Ser Gly Glu Gly Pro Asn Arg Asn Gly Ala Val Gln Leu
                85                  90                  95
Met Phe Ala Glu Leu Gln Met Leu Thr Pro Met Val Pro Thr Arg Glu
            100                 105                 110
Val Tyr Phe Ile Arg Tyr Cys Lys Gln Leu Ser Ala Glu Gln Trp Ala
        115                 120                 125
Leu Val Asp Val Ser Ile Glu Lys Val Glu Asp Asn Ile Asp Ala Ser
    130                 135                 140
Leu Val Lys Cys Arg Lys Arg Pro Ser Gly Cys Ile Ile Glu Asp Lys
145                 150                 155                 160
Ser Asn Gly His Cys Lys Val Ile Trp Val Glu His Leu Glu Cys Gln
                165                 170                 175
Lys Thr Thr Val His Pro Met Tyr Arg Thr Ile Val Asn Ser Gly Leu
            180                 185                 190
Ala Phe Gly Ala Arg His Trp Met Thr Thr Leu Gln Val Gln Cys Glu
        195                 200                 205
Arg Leu Val Phe Phe Met Ala Thr Asn Val Pro Thr Lys Asp Ser Asn
    210                 215                 220
Gly Val Ala Thr Leu Ala Gly Arg Lys Ser Ile Leu Arg Leu Ala Gln
225                 230                 235                 240
Arg Leu Thr Gln Ser Phe Cys Gln Ala Ile Gly Ala Ser Ser Tyr His
                245                 250                 255
Ser Trp Thr Lys Val Pro Thr Lys Thr Gly Glu Asp Ile Arg Val Ala
            260                 265                 270
Ser Arg Lys Asn Leu Asn Asp Pro Gly Glu Pro Leu Gly Val Ile Leu
        275                 280                 285
Cys Ala Val
    290
```

<210> 595
<211> 25
<212> PRT
<213> Eucalyptus grandis

<400> 595

```
Met Gln Ala Val Met Thr Gly Cys Asp Ser Ser Asn Ile Ala Ala Leu
 1               5                  10                  15
Pro Ser Gly Phe Ser Ile Leu Pro Asp
            20                  25
```

<210> 596
<211> 263
<212> PRT
<213> Eucalyptus grandis

<400> 596
Gln Asn Gly Pro Ser Met Pro Pro Val Gln Pro Phe Val Arg Ala Glu
1 5 10 15
Met Leu Pro Ser Gly Tyr Leu Val Arg Pro Cys Glu Gly Gly Gly Ser
20 25 30
Ile Ile Arg Ile Val Asp His Leu Asp Leu Glu Pro Trp Ser Val Pro
35 40 45
Glu Val Leu Arg Pro Leu Tyr Glu Ser Ser Thr Met Leu Ala Gln Lys
50 55 60
Thr Thr Met Ala Ala Leu Arg Gln Leu Arg Gln Ile Ala Gln Glu Val
65 70 75 80
Ser Gln Pro Asn Val Ser Gly Trp Gly Arg Arg Pro Ala Ala Leu Arg
85 90 95
Ala Leu Ser Gln Arg Leu Ser Arg Gly Phe Asn Glu Ala Leu Asn Gly
100 105 110
Phe Thr Asp Glu Gly Trp Ser Ile Met Gly Asn Asp Gly Ile Asp Asp
115 120 125
Val Thr Ile Leu Val Asn Ser Ser Pro Asp Lys Leu Met Gly Leu Asn
130 135 140
Leu Ser Phe Ser Asn Gly Phe Pro Ala Val Ser Asn Ala Val Leu Cys
145 150 155 160
Ala Arg Ala Ser Met Leu Leu Gln Asn Val Pro Pro Ala Val Leu Leu
165 170 175
Arg Phe Leu Arg Glu His Arg Ser Glu Trp Ala Asp Asn Ser Ile Asp
180 185 190
Ala Tyr Ser Ala Ala Ala Val Lys Val Gly Ser Cys Ala Leu Pro Gly
195 200 205
Ser Arg Ile Gly Ser Phe Gly Gly Gln Val Ile Leu Pro Leu Ala His
210 215 220
Thr Ile Glu His Glu Glu Phe Leu Glu Val Ile Lys Leu Glu Gly Met
225 230 235 240
Gly His Ser Pro Glu Asp Ala Leu Met Pro Arg Asp Ile Phe Phe Leu
245 250 255
Gln Met Cys Ser Gly Val Asp
260

<210> 597
<211> 134
<212> PRT
<213> Eucalyptus grandis

<400> 597
Cys Pro Ile Asp Ser Gly Arg Ser Phe Asp Thr Ser Leu Ser Leu Gly
1 5 10 15
Leu Gly Cys Tyr Gly Asp Pro Glu Asp His Glu Ile Lys Ile Lys Lys
20 25 30
Pro Leu Ala Lys Leu Ser Gly Asn Ser Thr Cys Leu Thr Ile Gly Leu
35 40 45
Pro Gly Gly Glu Ala Cys Gly Leu Gly Ser Ala Ser Gly Asp Glu Val
50 55 60
Arg Asn Ile Pro Ser Arg Ser Ala Ser Ser Phe Ser Asn Ser Ser Ser
65 70 75 80
Ala Lys Arg Glu Lys Ala Glu Gln Gly Glu Glu Glu Ala Val Glu Arg
85 90 95
Gly Thr Gly Ser Pro Arg Ala Thr Ile Asn Ile Glu Asp Glu Asp Glu
100 105 110

Phe Ser Pro Arg Lys Lys Leu Arg Leu Ser Lys Ala Gln Ser Ser Ile
        115   120   125
Leu Glu Glu Met Leu Gln
    130

<210> 598
<211> 220
<212> PRT
<213> Eucalyptus grandis

<400> 598
Met Gly Gln Gln Ser Leu Ile Tyr Ser Phe Val Ala Arg Gly Thr Val
 1   5   10   15
Ile Leu Ala Asp Tyr Thr Glu Phe Thr Gly Asn Phe Thr Ser Val Ala
            20   25   30
Phe Gln Cys Leu Gln Lys Leu Pro Ala Thr Asn Asn Lys Phe Thr Tyr
        35   40   45
Ser Cys Asp Gly His Thr Phe Asn Phe Leu Val Asp Asp Gly Phe Thr
    50   55   60
Tyr Cys Val Val Ala Val Glu Ser Val Gly Arg Gln Val Pro Ile Ala
65   70   75   80
Phe Leu Glu Arg Val Lys Asp Asp Phe Thr Lys Arg Tyr Gly Gly Gly
                85   90   95
Lys Ala Ala Thr Ala Val Ala Lys Ser Leu Asn Lys Glu Phe Gly Ser
            100   105   110
Lys Leu Lys Glu Gln Met Gln Tyr Cys Val Asp His Pro Glu Glu Ile
        115   120   125
Ser Lys Leu Ala Lys Val Lys Ala Gln Val Ser Glu Val Lys Gly Val
    130   135   140
Met Met Glu Asn Ile Glu Lys Val Leu Asp Arg Gly Glu Lys Ile Glu
145   150   155   160
Leu Leu Val Asp Lys Thr Glu Asn Leu Arg Ser Gln Ala Gln Asp Phe
                165   170   175
Arg Gln Gln Gly Thr Gln Ile Arg Arg Lys Met Trp Leu Gln Asn Met
            180   185   190
Lys Ile Lys Leu Ile Val Leu Gly Ile Leu Ile Ala Leu Ile Leu Ile
        195   200   205
Ile Val Leu Ser Ile Cys Gly Asn Gly Lys Cys Lys
    210   215   220

<210> 599
<211> 149
<212> PRT
<213> Eucalyptus grandis

<400> 599
Glu Glu Lys Lys Glu Glu Pro Pro Ala Pro Ile Thr Val Val Leu Lys
 1   5   10   15
Val Gly Met His Cys Glu Ala Cys Thr Arg Val Leu Arg Lys Arg Ile
            20   25   30
Arg Lys Ile Lys Gly Val Glu Thr Val Glu Thr Asp Val Val Asn Asp
        35   40   45
Arg Val Ile Val Lys Gly Val Val Asp Pro Pro Lys Leu Val Ala Tyr
    50   55   60
Val Lys Lys Arg Thr Gly Lys Gln Ala Ser Ile Val Lys Glu Glu Glu
65   70   75   80
Lys Lys Glu Glu Glu Lys Lys Glu Glu Ala Lys Lys Glu Glu Ser Lys

85 90 95
Glu Gly Glu Lys Lys Asp Gly Glu Glu Gly Lys Asp Glu Asp Gly Ser
100 105 110
Lys Met Asp Ile Lys Lys Asn Glu Tyr Trp Pro Ser Arg Pro Tyr Met
115 120 125
Glu Tyr Gln Met Tyr Pro Thr Gln Ile Phe Ser Asp Glu Asn Pro Asn
130 135 140
Ala Cys Ser Val Met
145

<210> 600
<211> 107
<212> PRT
<213> Eucalyptus grandis

<400> 600
Met Glu Phe Pro Ser Glu Phe Ser Glu Ala Ser Ser Gln Lys Arg Ile
1 5 10 15
Gly Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
20 25 30
Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
35 40 45
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
50 55 60
Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Arg Gly
65 70 75 80
Thr Ile Glu Arg Tyr Lys Lys Ala Ser Ser Asp Ser Ser His Pro Gln
85 90 95
Ser Val Ser Glu Val Asn Thr Gln Phe Tyr Pro
100 105

<210> 601
<211> 233
<212> PRT
<213> Eucalyptus grandis

<400> 601
Met Ala Arg Gly Lys Ile Gln Ile Lys Leu Ile Glu Asn Thr Thr Asn
1 5 10 15
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala
20 25 30
Asn Glu Leu Thr Val Leu Gly Asp Pro Lys Val Ser Ile Ile Met Ile
35 40 45
Ser Ser Thr Gly Lys Leu His Glu Tyr Ile Ser Pro Ser Thr Ser Thr
50 55 60
Lys Lys Met Tyr Asp Gln Tyr Gln Gln Ala Leu Glu Val Asp Leu Trp
65 70 75 80
Ser Ser His Tyr Glu Lys Met Gln Glu Asn Leu Arg Lys Leu Lys Glu
85 90 95
Val Asn Lys Lys Leu Gln Leu Glu Val Arg Arg Arg Phe Gly Glu Gly
100 105 110
Leu Asn Gly Met Ser Leu Ser Glu Leu Cys Gly Leu Glu Gln Asp Met
115 120 125
Asp Asn Ala Val Ser Leu Ile Arg Glu Arg Lys Tyr Lys Thr Leu Gly
130 135 140
Asn Gln Ile Asp Thr Ala Arg Lys Lys Lys Lys Asn Ala Glu Glu Ile
145 150 155 160

Asn Lys Ser Leu Leu Gln Asp Trp Thr Asn Leu Ile Lys His Leu Arg
165 170 175
Glu Asp Asp Pro His Phe Gly Met Val Asp Asn Gly Arg Asp Tyr Glu
180 185 190
Ala Val Ile Gly Tyr Thr Asp Ala Ala Ala Ala Ala Arg Leu Tyr Thr
195 200 205
Leu Arg Leu Gln Pro Asp Gln Pro Asn Leu Thr Ser Gly Gly Gly Ser
210 215 220
Glu Ile Thr Thr Tyr Pro Leu Leu Glu
225 230

<210> 602
<211> 113
<212> PRT
<213> Eucalyptus grandis

<400> 602
Met Ser Gln Lys Gly Leu Ile Tyr Ser Phe Val Ala Lys Gly Thr Val
1 5 10 15
Val Leu Ala Glu His Thr Gln Phe Ser Gly Asn Phe Ser Thr Ile Ala
20 25 30
Val Gln Cys Leu Gln Lys Leu Pro Ser Asn Ser Ser Lys Tyr Thr Tyr
35 40 45
Ser Cys Asp Gly His Thr Phe Asn Phe Leu Thr Asp Ser Gly Phe Val
50 55 60
Phe Leu Val Val Ala Asp Glu Ser Val Gly Arg Ser Val Pro Phe Val
65 70 75 80
Phe Leu Glu Arg Val Lys Asp Asp Phe Met Gln His Tyr Ser Ala Ser
85 90 95
Ile Ala Ser Gly Asp Pro His Pro Leu Ala Asp Asp Asp Glu Asp Asp
100 105 110
Asp

<210> 603
<211> 111
<212> PRT
<213> Eucalyptus grandis

<400> 603
Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Val Leu Cys Asp Val Glu Val Ala Leu Leu Ile Phe
35 40 45
Ser Ser Arg Gly Lys Leu Tyr Glu Phe Gly Ser Ala Gly Pro Ser Gly
50 55 60
Ile Asn Lys Thr Leu Glu Arg Tyr Gln Arg Asp Asn Phe Thr Pro Gln
65 70 75 80
Asp Asn Val Ala Glu His Glu Thr Gln Gln Asn Trp Phe Gln Glu Ile
85 90 95
Ser Lys Leu Lys Ala Lys Tyr Glu Leu Phe Asn Lys Leu Gln Lys
100 105 110

<210> 604
<211> 65

<212> PRT
<213> Eucalyptus grandis

<400> 604

Leu Leu Gln Lys Ser Ser Gln Glu Glu Asp Lys Ala Arg Leu Val Gln
1   5   10   15
Asp Thr Gly Leu Gln Leu Thr Gln Ile Asn Asn Trp Phe Ile Asn Gln
            20   25   30
Arg Lys Arg Asn Trp His Ser Asn Pro Ser Ser Ser Thr Val Pro Lys
        35   40   45
Ser Lys Arg Lys Arg Ser His Ala Gly Asp Pro Asp Lys Glu Arg Pro
    50   55   60
Met
65

<210> 605
<211> 60
<212> PRT
<213> Eucalyptus grandis

<400> 605

Cys Ile Glu Thr Lys Ala Arg Phe Gly Lys Ser Val Glu Ser Pro Ala
1   5   10   15
Thr Asp Lys Trp Lys Val Trp Phe Gln Asn Arg Arg Ala Arg Thr Lys
            20   25   30
Leu Lys Gln Thr Ala Val Glu Cys Glu Met Leu Gln Lys Cys Cys Glu
        35   40   45
Thr Leu Lys Glu Ala His Ser Arg Leu Gln Lys Glu
    50   55   60

<210> 606
<211> 188
<212> PRT
<213> Eucalyptus grandis

<400> 606

Met Ala Phe Ala Gly Thr Thr Gln Lys Cys Met Ala Cys Glu Lys Thr
1   5   10   15
Val Tyr Leu Val Asp Lys Leu Thr Ala Asp Asn Arg Ile Tyr His Lys
            20   25   30
Ala Cys Phe Arg Cys His His Cys Lys Gly Thr Leu Lys Leu Gly Asn
        35   40   45
Tyr Asn Ser Phe Glu Gly Val Leu Tyr Cys Arg Pro His Phe Asp Gln
    50   55   60
Leu Phe Lys Arg Thr Gly Ser Leu Glu Lys Ser Phe Glu Gly Thr Pro
65   70   75   80
Lys Ile Ala Lys Pro Glu Lys Pro Val Asp Gly Glu Arg Pro Ala Ala
                85   90   95
Thr Lys Ala Ser Ser Met Phe Gly Gly Thr Arg Asp Lys Cys Val Gly
            100   105   110
Cys Lys Ser Thr Val Tyr Pro Thr Glu Lys Val Thr Val Asn Gly Thr
        115   120   125
Pro Tyr His Lys Ser Cys Phe Lys Cys Thr His Gly Gly Cys Val Ile
    130   135   140
Ser Pro Ser Asn Tyr Val Ala His Glu Gly Lys Leu Tyr Cys Arg His
145   150   155   160
His His Thr Gln Leu Ile Lys Glu Lys Gly Asn Leu Ser Gln Leu Glu

165 170 175
Gly Asp His Glu Arg Glu Thr Met Ala Pro Glu Ser
180 185

<210> 607
<211> 66
<212> PRT
<213> Eucalyptus grandis

<400> 607
Phe Gly Lys Ile Phe Glu Glu Ser Val Arg Lys Glu Leu Ser Pro Glu
1 5 10 15
Phe Ala Lys Leu Met Gln Glu Gly Ser Ala Tyr Leu Pro Ser Gly Ile
20 25 30
Cys Met Ser Thr Met Gly Arg His Val Ser Tyr Glu Gln Ala Ile Ala
35 40 45
Trp Lys Val Leu Ser Ala Glu Glu Asn Thr Val His Cys Leu Ala Ser
50 55 60
Leu Ser
65

<210> 608
<211> 60
<212> PRT
<213> Eucalyptus grandis

<400> 608
Asp Gly Asn Ile Glu Lys Val Leu Asp Arg Gly Glu Lys Ile Glu Leu
1 5 10 15
Leu Val Asp Lys Thr Val Asn Leu Arg Ser Gln Ala Gln Asp Phe Arg
20 25 30
Gln Gln Gly Pro Lys Met Arg Arg Lys Met Trp Leu Gln Asn Met Lys
35 40 45
Ile Glu Ala Asp Leu Val Leu Gly Ile Ile Ile Ala
50 55 60

<210> 609
<211> 133
<212> PRT
<213> Eucalyptus grandis

<400> 609
Ala Gln Arg Glu Arg Glu Arg Glu Asn Gly Phe Ala Gly Thr Thr Gln
1 5 10 15
Lys Cys Met Ala Cys Glu Lys Thr Val Tyr Leu Val Asp Lys Leu Thr
20 25 30
Ala Asp Asn Ser Ile Tyr His Lys Ala Cys Phe Arg Cys His His Cys
35 40 45
Asn Gly Thr Leu Lys Leu Gly Asn Tyr Asn Ser Phe Glu Gly Val Leu
50 55 60
Tyr Cys Arg Pro His Phe Asp Gln Leu Phe Lys Arg Thr Gly Ser Leu
65 70 75 80
Glu Lys Ser Phe Glu Gly Thr Pro Lys Ile Ala Lys Pro Glu Lys Pro
85 90 95
Val Ala Gly Glu Arg Pro Ala Gly Pro Lys Pro Pro Val Cys Ser Gly
100 105 110
Asp Arg Glu Thr Gln Cys Val Asp Val Arg Ala Arg Phe Pro Thr Glu

115 120 125
Lys Val Thr Val Leu
130

<210> 610
<211> 162
<212> PRT
<213> Eucalyptus grandis

<400> 610
Met Ala Lys Glu Lys Ile Lys Ile Lys Lys Ile Asp Asn Leu Thr Ala
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Arg Gly Leu Ile Lys Lys Ala
20 25 30
Glu Glu Leu Ser Val Leu Cys Asp Ala Asp Val Ser Leu Ile Val Phe
35 40 45
Ser Ala Thr Gly Lys Leu Tyr Asp Phe Ser Ser Ser Arg Gln Met Lys
50 55 60
Gly Glu Asp Leu Glu Gly Leu Asn Val Glu Glu Leu Asp Gln Leu Glu
65 70 75 80
Lys Lys Leu Glu Ala Gly Leu Ser Leu Val Ile Lys Asn Lys Glu Glu
85 90 95
Lys Thr Trp Asn Glu Ile Asn Lys Leu Gln Arg Lys Glu Ala Gln Leu
100 105 110
Ile Lys Gln Asn Lys Gln Leu Lys His Glu Met Lys Met Ile Leu His
115 120 125
Gln Glu Lys Ser Val Thr Val Asn Ser Glu Ser Val Lys Asp Val Tyr
130 135 140
Ile Ser Arg Asn Ser Met Pro Pro Leu Asp Gly Asp Ser Pro Asn Pro
145 150 155 160
Ser Ser

<210> 611
<211> 43
<212> PRT
<213> Eucalyptus grandis

<400> 611
Met Met Ala Val Thr Ser Ala Cys Lys Asp Lys Met Gly Ile Asp Asn
1 5 10 15
Gly Lys Tyr Val Arg Tyr Thr Pro Glu Gln Val Glu Ala Leu Glu Arg
20 25 30
Leu Tyr His Glu Cys Pro Lys Pro Ser Ser Leu
35 40

<210> 612
<211> 226
<212> PRT
<213> Eucalyptus grandis

<400> 612
Ser Ala Ala Ser Leu Lys Ala Ser Pro Phe Gly Tyr Pro Gly Met Arg
1 5 10 15
Pro Thr Arg Phe Thr Gly Ser Gln Ile Ile Met Pro Leu Gly His Thr
20 25 30
Ile Glu His Glu Glu Met Leu Glu Val Ile Arg Leu Glu Gly His Ser

35 40 45
Leu Ala Gln Glu Asp Ala Phe Val Ser Arg Asp Ile His Leu Leu Gln
50 55 60
Ile Cys Ser Gly Ile Asp Glu Asn Ala Val Gly Val Cys Ser Glu Leu
65 70 75 80
Ile Phe Ala Pro Ile Asp Glu Met Phe Pro Asp Asp Ala Pro Leu Leu
85 90 95
Pro Ser Gly Phe Arg Ile Ile Pro Leu Asp Ser Lys Ser Ser Asp Val
100 105 110
Gln Asp Ser Leu Thr Thr Asn Arg Thr Leu Asp Leu Thr Ser Ser Leu
115 120 125
Glu Val Gly Pro Ala Ser Thr Asn Cys Val Gly Asp Val Ala Pro Ser
130 135 140
His Gly Ala Arg Ser Val Leu Thr Ile Ala Phe Gln Phe Pro Phe Asp
145 150 155 160
Ala Asn Thr Gln Asp Asn Val Ala Val Met Ala Arg Gln Tyr Val Arg
165 170 175
Ser Val Ile Ser Ser Val Gln Arg Val Ala Met Val Ile Ser Pro Ser
180 185 190
Gly Leu Gly Pro Ser Ile Asn Pro Lys Leu Ser Gln Gly Ser Pro Glu
195 200 205
Ala Leu Thr Leu Ala Asn Trp Ile Cys Gln Ser Tyr Arg His Val Leu
210 215 220
Ile Ile
225

<210> 613
<211> 82
<212> PRT
<213> Eucalyptus grandis

<400> 613
Arg Asp His Trp Ser Ser Phe Ser Ala Pro Ile Asp Glu Met Phe Pro
1 5 10 15
Asp Asp Ala Pro Leu Leu Pro Ser Gly Phe Arg Ile Ile Pro Leu Asp
20 25 30
Ser Lys Ser Ser Asp Val Gln Asp Ser Leu Thr Thr Asn Arg Thr Leu
35 40 45
Asp Leu Thr Ser Ser Leu Glu Val Gly Pro Ala Ser Thr Asn Cys Val
50 55 60
Gly Asp Val Ala Pro Ser His Gly Ala Arg Ser Val Leu Thr Ile Ala
65 70 75 80
Phe Gln

<210> 614
<211> 234
<212> PRT
<213> Eucalyptus grandis

<400> 614
Leu Asp Leu Ala Ser Ser Leu Glu Ile Gly Pro Ala Gly Asn Arg Ser
1 5 10 15
Phe Asn Asp Ile Asn Ala Asn Ser Gly Cys Thr Arg Ser Val Met Thr
20 25 30
Ile Ala Phe Glu Phe Ala Phe Glu Ser His Met Gln Glu His Val Ala
35 40 45

Ser Met Ala Arg Gln Tyr Val Arg Ser Ile Ile Ser Ser Val Gln Arg
    50   55   60
Val Ala Leu Ala Leu Ser Pro Ser Asn Leu Gly Ser His Ala Gly Leu
65   70   75   80
Arg Thr Pro Leu Gly Thr Pro Glu Ala Gln Thr Leu Ala Arg Trp Ile
                85   90   95
Cys His Ser Tyr Arg Cys Tyr Leu Gly Val Asp Leu Leu Lys Ser Ser
            100   105   110
Asn Glu Gly Ser Glu Leu Ile Leu Lys Asn Leu Trp His His Ser Asp
        115   120   125
Ala Ile Met Cys Cys Ser Leu Lys Ala Leu Pro Val Phe Thr Phe Ala
    130   135   140
Asn Gln Ala Gly Leu Asp Met Leu Glu Thr Thr Leu Val Ala Leu Gln
145   150   155   160
Asp Ile Thr Leu Glu Lys Ile Phe Asp Asp His Gly Arg Lys Thr Leu
                165   170   175
Cys Ser Glu Phe Pro Gln Ile Met Gln Gln Gly Phe Ala Cys Leu Gln
            180   185   190
Gly Gly Ile Cys Leu Ser Ser Met Gly Arg Pro Val Ser Tyr Glu Arg
        195   200   205
Ala Val Ala Trp Lys Val Met Asn Glu Glu Glu Asn Ala His Cys Ile
    210   215   220
Cys Phe Met Phe Ile Asn Trp Ser Phe Val
225   230

<210> 615
<211> 100
<212> PRT
<213> Eucalyptus grandis

<400> 615
Met Ala Phe Ala Gly Thr Thr Gln Lys Cys Met Ala Cys Glu Lys Thr
1   5   10   15
Val Tyr Leu Val Asp Lys Leu Thr Ala Asp Asn Arg Ile Tyr His Lys
            20   25   30
Ala Cys Phe Arg Cys His His Cys Lys Gly Thr Leu Lys Leu Gly Asn
        35   40   45
Tyr Asn Ser Phe Glu Gly Val Leu Tyr Cys Arg Pro His Phe Asp Gln
    50   55   60
Leu Phe Lys Arg Thr Gly Ser Leu Glu Lys Ser Phe Glu Gly Asn Pro
65   70   75   80
Gln Asp Leu Gln Ser Pro Glu Lys Pro Val Val Glu Arg Asp Leu Gln
                85   90   95
Arg Pro Lys Ala
            100

<210> 616
<211> 93
<212> PRT
<213> Eucalyptus grandis

<400> 616
Met Ala Phe Lys Ser Pro Gly Gly Ile Thr Trp Leu Lys His Leu Leu
1   5   10   15
Val Lys Asn Phe Tyr Leu Gly Glu His Leu Lys Cys Arg Asn Gly Leu
            20   25   30
Ile Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ile Asp Ile Ala

35 40 45
Leu Ile Met Phe Ser Pro Ser Asp Arg Val Ser His Phe Ser Gly Lys
50 55 60
Arg Arg Ile Glu Asp Val Leu Thr Arg Phe Ile Asn Leu Thr Asp Gln
65 70 75 80
Glu Arg Asp Thr Pro Arg Cys Pro Gly Ser Ala His Thr
85 90

<210> 617
<211> 41
<212> PRT
<213> Eucalyptus grandis

<400> 617
Met Gly Arg Gly Arg Val Gln Leu Lys Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Leu Leu Cys Asp Ala
35 40

<210> 618
<211> 62
<212> PRT
<213> Eucalyptus grandis

<400> 618
Glu Ile Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe Ser
1 5 10 15
Thr Lys Gly Lys Leu Phe Glu Tyr Ala Thr Asp Cys Cys Met Glu Arg
20 25 30
Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Ala Glu Ser Gln Val Leu
35 40 45
Thr Asn Asn Ala Glu Thr Asn Gly Asn Trp Thr Leu Glu His
50 55 60

<210> 619
<211> 86
<212> PRT
<213> Eucalyptus grandis

<400> 619
Asp Ser Ser His Pro Gln Ser Val Ser Glu Val Asn Thr Gln Phe Tyr
1 5 10 15
Gln Gln Glu Ala Ser Lys Leu Arg Arg Gln Ile Arg Glu Ile Gln Val
20 25 30
Ser Asp Arg His Leu Leu Gly Glu Gly Ile Ser Asp Leu Ser Phe Lys
35 40 45
Asp Leu Lys Asn Leu Glu Ser Lys Leu Glu Lys Ser Ile Ser Arg Val
50 55 60
Arg Ser Lys Lys Asn Glu Met Leu Phe Ala Glu Ile Glu Tyr Met Gln
65 70 75 80
Met Arg Gly Leu Val Gln
85

<210> 620
<211> 99

<212> PRT
<213> Eucalyptus grandis

<400> 620
Glu Asn Ser Arg Asn Glu Trp Asp Ile Leu Ser Asn Gly Gly Gln Val
1   5   10   15
Gln Glu Met Ala His Ile Ala Asn Gly Arg Asp Pro Gly Asn Ser Val
            20   25   30
Ser Leu Leu Arg Val Asn Asn Ala Asn Ser Ser Gln Ser Asn Met Leu
        35   40   45
Ile Leu Gln Glu Ser Cys Thr Asp Ser Val Gly Ala Tyr Val Ile Tyr
    50   55   60
Ala Pro Val Asp Ile Val Ala Met Asn Val Val Leu Asn Gly Gly Asp
65   70   75   80
Pro Asp Tyr Val Ala Leu Leu Pro Ser Gly Phe Ala Ile Leu Pro Asp
                85   90   95
Gly Pro Glu

<210> 621
<211> 72
<212> PRT
<213> Eucalyptus grandis

<400> 621
Thr Glu Gln Val His Phe Leu Glu Lys Asn Phe Glu Leu Glu Asn Lys
1   5   10   15
Leu Glu Pro Glu Arg Lys Ile Gln Leu Ala Lys Asp Leu Gly Leu Gln
            20   25   30
Pro Arg Gln Val Ala Ile Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys
        35   40   45
Thr Lys His Leu Glu Lys Glu Tyr Glu Asp Leu Gln Ala Ser Tyr Asn
    50   55   60
Ser Leu Lys Ala Asp Cys Asp Gly
65   70

<210> 622
<211> 79
<212> PRT
<213> Eucalyptus grandis

<400> 622
Asn Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys
1   5   10   15
Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile
            20   25   30
Phe Ser Thr Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Pro Ser Met
        35   40   45
Leu Lys Thr Leu Asp Arg Tyr Gln Lys Cys Ser Tyr Gly Ser Val Glu
    50   55   60
Val Asn Lys Pro Ser Lys Glu Leu Glu Asn Ala Tyr Arg Glu Tyr
65   70   75

<210> 623
<211> 242
<212> PRT
<213> Eucalyptus grandis

<400> 623

Met Gly Arg Gly Arg Leu Gln Leu Lys Arg Ile Glu Asn Lys Ile Asn
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
            20   25   30
His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
        35   40   45
Ser Ala Lys Gly Lys Leu Phe Glu Tyr Ser Thr Asp Ser Cys Met Glu
    50   55   60
Arg Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Ser Glu His Gln Val
65   70   75   80
Leu Ala Ser Glu Thr Glu Ser Ile Gly Ser Trp Thr Leu Glu His Ala
                85   90   95
Lys Leu Lys Ala Arg Leu Glu Val Leu His Arg Asn Tyr Arg His Phe
            100   105   110
Met Gly Glu Asp Leu Asp Ser Leu Ser Leu Lys Asp Leu Gln Asn Leu
        115   120   125
Glu Gln Gln Leu Glu Ser Ala Leu Lys His Ile Arg Ser Arg Lys Asn
    130   135   140
Gln Leu Met His Glu Ser Ile Ser Val Leu Gln Lys Lys Asp Arg Ala
145   150   155   160
Leu Gln Glu Gln Asn Asn Leu Leu Thr Arg Lys Val Lys Glu Lys Glu
                165   170   175
Arg Ala Leu Ala Gln Gln Ala Gln Trp Glu Gln Gln Asp His Ala Leu
            180   185   190
Asp Ser Pro Val Val Leu Pro His Tyr Leu Pro Ser Leu Asp Ile Asn
        195   200   205
Gly Ser Tyr Gln Ala Arg His Asn Gly His Asp Asp Gly Glu Asn Leu
    210   215   220
Thr Gln Pro Arg Ala Gly Thr Leu Leu Pro Pro Trp Met Leu His Arg
225   230   235   240
Leu Asn

<210> 624
<211> 360
<212> PRT
<213> Eucalyptus grandis

<400> 624

Met Lys Arg Leu Gly Ser Ser Asp Ser Leu Gly Ala Leu Met Ser Ile
1   5   10   15
Cys Pro Pro Ser Glu Glu Leu Gln His Ser Pro Arg Asn Gly Asn Pro
            20   25   30
Ile Tyr His Ser Arg Asp Leu Gln Ser Met Leu Glu Leu Gly Leu Asp
        35   40   45
Glu Glu Gly Cys Val Glu Asp Gln Ser Ala Gly Gly Gly Gly His Val
    50   55   60
Gly Gly Glu Lys Lys Arg Arg Leu Ser Ile Asp Gln Val Lys Ala Leu
65   70   75   80
Glu Lys Asn Phe Glu Val Glu Asn Lys Leu Glu Pro Glu Arg Lys Val
                85   90   95
Lys Leu Ala Gln Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Val Trp
            100   105   110
Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Leu Glu Arg Asp
        115   120   125

Tyr Gly Val Leu Lys Ser Ser Tyr Glu Ala Leu Lys Leu Ser Tyr Asp
    130   135   140
Ala Leu Lys His Asp Asn Glu Ala Leu His Lys Glu Ile Lys Glu Leu
145   150   155   160
Lys Ser Lys Leu Arg Glu Glu Asp Asp Asn Pro Glu Ser Asn Leu Ser
                165   170   175
Val Lys Glu Glu Val Ile Ile Pro Gly His Asp Val Ser Asp Lys Ile
            180   185   190
Arg Ala Ala Asp Asp Gly Asp Asp Asp Thr Lys Arg Ser Pro Pro Pro
        195   200   205
Pro Ile Thr Ala Pro Pro Arg Glu Leu Ser Phe Asn Asn Gly Gly Leu
    210   215   220
Lys Asp Gly Ser Ser Asp Ser Asp Ser Ser Ala Ile Val Asn Glu Glu
225   230   235   240
Asn Ala Ala Thr Ser Ser Ser Ser Pro Asn Pro Ala Val Gln Ser His
                245   250   255
Gly Gly Phe Leu Lys Phe Met Gly Ser Ser Ser Ser Ser Ala Ser Pro
            260   265   270
Pro Pro Pro Pro Pro Ala Ser Phe Gly Gly Cys Phe Ser Phe Gln Phe
        275   280   285
Gln Arg Ala Tyr Gln Pro Gln Pro Gln Pro Pro His His His His His
    290   295   300
His Ser Pro Tyr Val Lys Met Glu Glu His Asn Phe Leu Gly Gly Glu
305   310   315   320
Glu Asp Cys Asn Phe Phe Ser Gln Gln Gln Ala Pro Asn Pro Gln Trp
                325   330   335
Glu Arg Pro Gln Gln Gly Lys Arg Arg Lys Thr Asn Ser Pro Arg Gly
            340   345   350
Arg Gly Leu Gln Ile Arg Asp Arg
        355   360

<210> 625
<211> 75
<212> PRT
<213> Eucalyptus grandis

<400> 625
Met Gly Glu Glu Ser Phe Ile Tyr Ser Phe Val Ala Arg Gly Thr Met
1   5   10   15
Ile Leu Ala Glu Tyr Thr Glu Phe Thr Gly Asn Phe Pro Ala Ile Ala
            20   25   30
Ala Gln Cys Leu Gln Lys Leu Pro Ser Ser Asn Asn Lys Phe Thr Tyr
        35   40   45
Ser Cys Asp His His Thr Phe Asn Phe Leu Leu Glu Asp Gly Tyr Ala
    50   55   60
Tyr Cys Val Val Ala Lys Glu Ser Val Gly Gln
65   70   75

<210> 626
<211> 53
<212> PRT
<213> Eucalyptus grandis

<400> 626
Ile Pro Phe Ser Leu Phe Pro Pro Gln Ser Glu Gly Phe Phe Asn Pro
1   5   10   15
Met Asp Gly Asn Leu Ser Leu Gln Ile Gly Tyr Asn Pro Thr Cys Leu

20 25 30
Asp Glu Met Asn Ala Ser Val Ser Ser Gln Asn Val Ala Gly Phe Ile
35 40 45
Pro Gly Trp Met Leu
50

<210> 627
<211> 50
<212> PRT
<213> Eucalyptus grandis

<400> 627
Ala Gly Gly Glu Pro Met Trp Ile Ala Gly Pro Asp Gly Ser Ser Ser
1 5 10 15
Val Leu Asn Glu Asp Glu Tyr Ile Arg Ala Phe Pro Arg Gly Ile Val
20 25 30
Thr Asn Pro Thr Gly Phe Lys Arg Glu Pro His Asp Lys Pro Gly Ser
35 40 45
Ser Ser
50

<210> 628
<211> 232
<212> PRT
<213> Eucalyptus grandis

<400> 628
Leu Gly Thr Gln Ile Pro Ser Gly Ile His Met Pro Ser Ala Asn Leu
1 5 10 15
Ser Ser Ile Ser Phe Leu Gly Pro Ile Pro Met Val Ser Gly Asp Gly
20 25 30
Gly Gly Arg Thr Gly Ser Glu Arg Ser Arg Asn Ala Asp Cys Ala Pro
35 40 45
Ala Gly Phe Pro Gly Gly Asp Glu Asp Val Asn Lys Gly Gly Asp Ile
50 55 60
Pro Tyr Gly Met Ser Thr Ile Val Arg Val Ile Pro Asn Ser Arg Tyr
65 70 75 80
Leu Arg Val Ala Gln Gln Leu Leu Asp Glu Ile Val Asn Val Arg Lys
85 90 95
Ala Leu Lys Arg Ser Asp Asp Ala Asn Asp Gln Ser Arg His Glu Asn
100 105 110
Gln Arg Ser Pro Lys Asp Ala Asp Gly Gly Ser Lys Asn Glu Ala Ser
115 120 125
Ser Asn Pro Gln Glu Ser Ala Ser Asn Ser Ser Glu Leu Ser Ala Ala
130 135 140
Glu Lys Gln Asp Leu Gln Asn Lys Leu Thr Lys Leu Leu Ser Met Leu
145 150 155 160
Asp Glu Val Asp Lys Arg Tyr Lys Gln Tyr Tyr His Gln Met Gln Ile
165 170 175
Val Val Gln Ser Phe Asp Thr Ile Ala Gly Ser Gly Ala Ala Lys Pro
180 185 190
Tyr Thr Ala Leu Ala Leu Gln Arg Ile Ser Arg His Phe Arg Cys Leu
195 200 205
His Asp Ala Ile Thr Gly Gln Ile Gln Ala Thr Arg Lys Ser Leu Gly
210 215 220
Glu Gln Asp Thr Ser Thr Glu Thr
225 230

<210> 629
<211> 69
<212> PRT
<213> Eucalyptus grandis

<400> 629
Leu Asp Ile Leu Glu Trp Ile Leu Glu Leu Ile Gly Val Thr Tyr Arg
1 5 10 15
Arg Leu Asp Gly Ser Thr Gln Val Thr Asp Arg Gln Ser Ile Val Asp
20 25 30
Thr Phe Asn Asn Asp Thr Ser Ile Phe Ala Cys Leu Leu Ser Thr Arg
35 40 45
Ala Gly Gly Gln Gly Leu Asn Leu Thr Gly Ala Asp Thr Val Val Ile
50 55 60
His Asp Met Gly Phe
65

<210> 630
<211> 62
<212> PRT
<213> Eucalyptus grandis

<400> 630
Cys Trp His His Val His Thr Gln Cys Gly Lys Ala Gly Phe Gly Met
1 5 10 15
Leu Lys Gln Glu Asn Leu Ser Asn Glu Leu Asp Arg Val Lys Lys Glu
20 25 30
Asn Asp Asn Leu Gln Ile Gln Leu Arg His Leu Arg Gly Arg His Asn
35 40 45
Ile Thr Glu Pro Gln Arg Ala Asp Asn Pro Arg Arg His Ser
50 55 60

<210> 631
<211> 113
<212> PRT
<213> Eucalyptus grandis

<400> 631
Gly Ser Lys Glu Leu Glu Ser Leu Glu Arg Gln Leu Asp Gly Ser Leu
1 5 10 15
Lys Gln Ile Arg Ser Arg Arg Thr Gln Tyr Met Leu Asp Gln Leu Thr
20 25 30
Asp Leu Gln His Arg Glu Gln Leu Leu His Glu Ala Asn Arg Thr Leu
35 40 45
Asn Gln Arg Leu Met Glu Gly Tyr Gln Val Asn Ala Leu Gln Leu Asn
50 55 60
Gln His Ala Glu Glu Val Gly Gly Tyr Gly His Pro Pro Pro Pro Pro
65 70 75 80
Leu Pro Pro Gln Pro Leu Ala Gln Pro His Ser Glu Ala Phe Phe Ile
85 90 95
Pro Trp Asn Val Asn Pro Leu Cys Lys Trp Asp Thr Ser Pro Ile Gln
100 105 110
Cys

<210> 632

<211> 393
<212> PRT
<213> Eucalyptus grandis

<400> 632

```
Met Val Glu Gly Glu Arg Asn Gly Asp Asp Asp Gly Ala Ser Gln Gly
 1               5                  10                  15
Glu Gln Gln Trp Lys His Gln Gln Ala Leu Asp Arg Leu Gly Lys Tyr
            20                  25                  30
Val Arg Tyr Thr Ala Glu Gln Val Glu Ala Leu Glu Arg Val Tyr Ser
        35                  40                  45
Glu Cys Pro Lys Pro Ser Ser Leu Arg Arg Gln Gln Leu Ile Arg Glu
    50                  55                  60
Cys Pro Ile Leu Ser Asn Ile Glu Pro Lys Gln Ile Lys Val Trp Phe
65                  70                  75                  80
Gln Asn Arg Arg Cys Arg Glu Lys Gln Arg Lys Glu Ala Ser Arg Leu
                85                  90                  95
Gln Thr Val Asn Arg Lys Leu Thr Ala Met Asn Lys Leu Leu Met Glu
            100                 105                 110
Glu Asn Asp Arg Leu Gln Lys Gln Val Ser Gln Leu Val Cys Glu Asn
        115                 120                 125
Gly Tyr Met Arg Gln Gln Leu His Thr Thr Ser Ala Thr Thr Thr Asp
    130                 135                 140
Ala Ser Cys Asp Ser Val Val Thr Thr Pro Gln His Ser Leu Arg Asp
145                 150                 155                 160
Ala Asn Asn Pro Ala Gly Leu Leu Ser Ile Ala Glu Glu Thr Leu Ala
                165                 170                 175
Glu Phe Leu Ser Lys Ala Thr Gly Thr Ala Val Asp Trp Val Gln Met
            180                 185                 190
Pro Gly Met Lys Pro Gly Pro Asp Ser Val Gly Ile Phe Ala Ile Ser
        195                 200                 205
Gln Ser Cys Ser Gly Val Ala Ala Arg Ala Cys Gly Leu Val Ser Leu
    210                 215                 220
Glu Pro Thr Lys Ile Val Glu Ile Leu Lys Asp Arg Thr Ser Trp Phe
225                 230                 235                 240
Arg Asp Cys Arg Ser Leu Glu Val Phe Thr Met Phe Pro Ala Gly Asn
                245                 250                 255
Gly Gly Thr Ile Glu Leu Val Tyr Thr Gln Ile Tyr Ala Pro Thr Thr
            260                 265                 270
Leu Ala Pro Ala Arg Asp Leu Trp Thr Leu Arg Tyr Thr Thr Thr Leu
        275                 280                 285
Glu Asn Gly Ser Leu Val Val Cys Glu Arg Ser Leu Ser Gly Ser Gly
    290                 295                 300
Ala Gly Pro Asn Pro Ala Ser Ala Ala Gln Phe Val Arg Ala Glu Ile
305                 310                 315                 320
Leu Pro Ser Gly Tyr Leu Ile Arg Pro Cys Glu Gly Gly Gly Ser Ile
                325                 330                 335
Ile His Ile Val Asp His Leu Asn Leu Glu Ala Trp Ser Val Pro Glu
            340                 345                 350
Val Leu Arg Pro Leu Tyr Glu Ser Ser Lys Val Val Ala Gln Arg Ile
        355                 360                 365
Thr Ile Ala Ala Leu Arg Tyr Ile Arg Gln Ile Ala Gln Glu Thr Ser
    370                 375                 380
Gly Glu Val Val Tyr Gly Leu Gly Arg
385                 390
```

<210> 633

<211> 84
<212> PRT
<213> Eucalyptus grandis

<400> 633
Met Gly Ile Asp Asp Leu Cys Asn Thr Gly Leu Val Leu Ser Leu Gly
1   5   10   15
Leu Glu Thr Pro Phe Lys Ile Glu Ala Gln Arg Gln Ala Lys Gln Arg
            20   25   30
Leu Asn Phe Glu Pro Ser Leu Thr Leu Cys Leu Ser Gly Thr Thr Lys
        35   40   45
Ala Thr Arg Asp Glu Gln Pro Pro Ala Asp His Leu Tyr Arg Gln Ala
    50   55   60
Ser Pro His Ser His Asn Ser Leu Ser Ala Val Ser Ser Phe Ser Ser
65   70   75   80
Pro Arg Val Lys

<210> 634
<211> 67
<212> PRT
<213> Eucalyptus grandis

<400> 634
Glu Ser Gly Glu Ala Arg Arg Leu Arg Asp Ser Leu Val Glu Met Ala
1   5   10   15
Asn Val Gly Lys Ser Pro Ser Met Leu Thr Glu Cys Gly Leu Ala Glu
            20   25   30
Asn Ser Leu Val Ser Ile Ala Glu Arg Val Thr His His Arg Trp Ser
        35   40   45
Trp Ser Glu Val Lys Tyr Leu Ser Asp Cys His Leu Met Ala Leu Asp
    50   55   60
Ala Ser Leu
65

<210> 635
<211> 103
<212> PRT
<213> Eucalyptus grandis

<400> 635
Tyr Ser Glu Ala Ser Ser Asp Glu Gly Asn Gln Tyr Ser Thr Arg Glu
1   5   10   15
Glu Glu Gly Glu Ile Glu Glu Phe Glu Glu Asp Thr Tyr Ser Gly Ala
            20   25   30
Pro Gly Ala Leu Pro Ile Asn Lys Asp Gln Ser Asp Glu Asp Val Pro
        35   40   45
Ala Glu Glu Cys Asp Glu Tyr Pro Trp Thr Ser Glu Arg Thr Arg Asn
    50   55   60
Asn His Leu Pro Glu Glu Ala Gly Phe Ser Gly Ser Ser Ala Asp Ser
65   70   75   80
Pro Arg Gly Ile Arg Met Ala Ser Pro Ser Ala Ser Ser Gln Lys Phe
                85   90   95
Gly Ser Leu Ser Ala Leu Asp
            100

<210> 636

<211> 299
<212> PRT
<213> Eucalyptus grandis

<400> 636
Met Ala Phe His Asn His Leu Ser His Gln Asp Leu Ser Ser Leu His
1 5 10 15
His Phe Ala Ala Asp Gln Gln Pro Pro Pro Pro Gln His Gln Gln Gln
20 25 30
Gln Gln His Leu Pro Asp Ser Ser Ser Ser Val His His Gln Leu His
35 40 45
His Ala Ala Gly Pro Asn Trp Leu Asn Thr Ala Leu Leu Arg Ser Asp
50 55 60
Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Gly Asn Ser Phe Leu Asn
65 70 75 80
Leu His Thr Ser Ser Asp Ser Ala Ala Ser Pro Gln Ala Gln Gln Gln
85 90 95
Pro Pro Ala Thr Ser Ala Ser Ala Ala Ala Gly His His Gln Trp Leu
100 105 110
Ser Arg Gln His Ser Ser Leu Leu Gln Arg Asn His Ser Glu Val Ile
115 120 125
Asp Ala Asp Ser Ile Ile Asp Ser Ala Asp Leu Lys Glu Ser Val Ser
130 135 140
Lys Gly Asp Gly Gly Gly Gly Gly Ala Ala Glu Ser Asn Trp Glu Asn
145 150 155 160
Ala Lys Tyr Lys Ala Glu Ile Leu Ala His Pro Leu Tyr Glu Gln Leu
165 170 175
Leu Ser Ala His Val Ala Cys Leu Arg Ile Ala Thr Pro Val Asp Gln
180 185 190
Leu Pro Arg Ile Asp Ala Gln Leu Ala Gln Ser Gln His Val Val Ala
195 200 205
Lys Tyr Ser Ala Met Ser Gln Gly Leu Val Ala Asp Asp Lys Glu Leu
210 215 220
Asp Gln Phe Met Thr His Tyr Val Leu Leu Leu Cys Ser Phe Lys Glu
225 230 235 240
Gln Leu Gln Gln His Val Arg Val His Ala Met Glu Ala Val Met Ala
245 250 255
Cys Trp Glu Ile Glu Gln Ser Leu Gln Ser Leu Thr Gly Val Ser Pro
260 265 270
Gly Glu Gly Thr Gly Ala Thr Met Ser Asp Asp Glu Asp Asp Gln Val
275 280 285
Asp Ser Asp Ala Asn Leu Phe Asp Gly Ser Leu
290 295

<210> 637
<211> 91
<212> PRT
<213> Eucalyptus grandis

<400> 637
Met Gly Arg Arg Lys Ile Glu Ile Gln Pro Ile Thr His Glu Arg Asn
1 5 10 15
Arg Ser Val Thr Phe Leu Lys Arg Lys Asn Gly Leu Phe Lys Lys Ala
20 25 30
Tyr Glu Leu Gly Val Leu Cys Ser Val Asp Val Ala Val Ile Ile Phe
35 40 45
Glu Asp Arg Pro Gly His Ser Pro Lys Leu Tyr Gln Tyr Ser Ser Arg

50 55 60
Gly Ile Gln Asp Ile Val Gln Arg His Leu His His Asp Gly Glu Thr
65 70 75 80
Asp Asn Arg Gly Pro Gly Asp Phe Ser Gly Ala
85 90

<210> 638
<211> 129
<212> PRT
<213> Eucalyptus grandis

<400> 638
Met Phe Ser Thr Gly Glu Tyr Ser Ala Ala Ala Phe Glu Gly Met Asp
1 5 10 15
Ser Leu Pro Ser Pro Arg Lys Lys Lys Asn Gln Leu Val Asn Arg Arg
20 25 30
Arg Phe Ser Asp Glu Gln Ile Arg Ser Leu Glu Ser Ile Phe Glu Ser
35 40 45
Glu Ser Arg Leu Glu Pro Arg Lys Lys Leu Gln Leu Ala Arg Glu Leu
50 55 60
Gly Leu Gln Pro Arg Gln Val Ala Ile Trp Phe Gln Asn Lys Arg Ala
65 70 75 80
Arg Trp Lys Ser Lys Gln Leu Glu Arg Asp Phe Ala Ile Leu Arg Ala
85 90 95
Asn Tyr Asn Ala Leu Tyr Ser Arg Phe Glu Ser Leu Lys Lys Glu Lys
100 105 110
Gln Ser Leu Val Thr Gln Ile Glu Lys Leu Asn Gln Leu Val Glu Lys
115 120 125
Pro

<210> 639
<211> 101
<212> PRT
<213> Eucalyptus grandis

<400> 639
Met Leu Tyr Arg Gly Gly Met Arg Thr Pro Asn Ala Gln Gln Ile Glu
1 5 10 15
Gln Ile Thr Ala Gln Leu Ser Lys Tyr Gly Lys Ile Glu Gly Lys Asn
20 25 30
Val Phe Tyr Trp Phe Gln Asn His Lys Ala Arg Glu Arg Gln Lys Gln
35 40 45
Lys Arg Asn Ser Leu Gly Leu Ser His Cys Ser Arg Thr Pro Thr Thr
50 55 60
Ala Ala Thr Ile Ala Thr Val Thr Leu Asn Thr Thr Lys Val His Arg
65 70 75 80
Thr Ile Leu Pro Tyr Phe Phe Pro His Ser Gly Ile Gly Val Arg Ala
85 90 95
Leu His Asp Ala Cys
100

<210> 640
<211> 85
<212> PRT
<213> Eucalyptus grandis

<400> 640
Thr Pro Ser Ser Pro Ala Ser Asp Gln Ile Leu Ser Ser Cys Thr Pro
1 5 10 15
Gln Asp Phe His Gly Val Ala Ser Leu Leu Gly Lys Arg Ser Met Ser
20 25 30
Phe Thr Gly Ile Asp Val Gly Asp Asp Pro Asn Ile Asn Asn Gly Asn
35 40 45
Val Asn Gly Glu Glu Asp Leu Ser Glu Asp Asp Gly Ser Gln Pro Gly
50 55 60
Gly Glu Lys Lys Arg Arg Leu Asn Met Glu Gln Val Lys Thr Leu Glu
65 70 75 80
Lys Asn Phe Glu Leu
85

<210> 641
<211> 162
<212> PRT
<213> Eucalyptus grandis

<400> 641
Gly Lys Ala Thr Ala Ser Gly Gly Gly Gly Gly Tyr Met Ser Ser Pro
1 5 10 15
Val Pro Leu Gly Pro Phe Thr Gly Tyr Ala Ser Ile Leu Lys Gly Ser
20 25 30
Arg Phe Leu Arg Pro Ala Gln Gln Leu Leu Glu Glu Leu Cys Glu Ala
35 40 45
Gly Arg Ala Ile Cys Thr Glu Lys Met Thr Asp Asp Ser Cys Ala Met
50 55 60
Thr Glu Pro Ala Met Asp Ser Leu Ser Gly Gly Cys Gly Ile Gly Met
65 70 75 80
Asp Asp Gly Cys Gly Gly Asp Gly Gly Glu Phe Arg Arg Lys Lys Ser
85 90 95
Arg Leu Ile Ser Met Leu Asp Glu Val Cys Arg Arg Tyr Lys Gln Tyr
100 105 110
Cys Gln Gln Met Gln Ala Val Val Ala Ser Phe Glu Cys Val Ala Gly
115 120 125
Leu Ser Asn Ala Ala Pro Tyr Ala Asn Leu Ala Leu Lys Ala Met Ser
130 135 140
Lys His Phe Lys Cys Leu Lys Asn Ala Ile Ala Asp Gln Leu Gln Phe
145 150 155 160
Thr Asn

<210> 642
<211> 155
<212> PRT
<213> Eucalyptus grandis

<400> 642
Met Gly Gln Gln Ser Leu Ile Tyr Ser Phe Val Ala Arg Gly Thr Val
1 5 10 15
Ile Leu Ala Glu Tyr Thr Glu Phe Thr Gly Asn Phe Thr Ser Ile Ala
20 25 30
Ser Gln Cys Leu Gln Lys Leu Pro Ala Thr Asn Asn Lys Phe Thr Tyr
35 40 45
Asn Cys Asp Gly His Thr Phe Asn Tyr Leu Val Glu Asn Gly Phe Thr
50 55 60

Tyr Cys Val Val Ala Ala Glu Ser Ala Gly Arg Gln Ile Pro Ile Ala
65   70   75   80
Phe Leu Glu Arg Ile Lys Asp Asp Phe Asn Lys Arg Tyr Gly Gly Gly
                85   90   95
Lys Ala Thr Thr Ala Ala Ala Asn Ser Leu Asn Arg Glu Phe Gly Pro
            100   105   110
Lys Leu Lys Glu His Met Gln Tyr Cys Val Asp His Pro Glu Glu Ile
        115   120   125
Ser Lys Leu Ala Lys Val Lys Ala Gln Val Ser Glu Val Lys Gly Val
    130   135   140
Met Met Glu Asn Ile Glu Lys Val Leu Asp Arg
145   150   155

<210> 643
<211> 54
<212> PRT
<213> Eucalyptus grandis

<400> 643
Glu Trp Trp Ser Val His Asn Lys Trp Pro Tyr Pro Thr Glu Ala Asp
1   5   10   15
Lys Ile Ala Leu Ala Lys Ser Thr Gly Leu Asp Gln Lys Gln Ile Asn
            20   25   30
Asn Trp Phe Ile Asn Gln Arg Lys Arg His Trp Lys Pro Ser Glu Ile
        35   40   45
Thr His Tyr Lys Val Ile
    50

<210> 644
<211> 308
<212> PRT
<213> Eucalyptus grandis

<400> 644
Met Ala Met Gln Thr Gly Ile Gly Leu Ser Lys Ile Leu Val Leu Ala
1   5   10   15
Gly Ala Gly Tyr Thr Gly Thr Ile Leu Phe Gln Asn Gly Lys Leu Ser
            20   25   30
Asp Leu Leu Gly Glu Leu Gln Gly Leu Val Lys Gly Leu Glu Lys Ser
        35   40   45
Gly Ser Gln Ser Asp Gly Asp Lys Asp Tyr Ser Asp Ala Val Ala Ala
    50   55   60
Gln Val Arg Arg Leu Ala Met Glu Val Arg Gln Leu Ala Ser Ala Arg
65   70   75   80
Gln Ile Thr Val Leu Asn Gly Asn Ser Ser Gln Met Gly Asn Leu Thr
                85   90   95
Asn Met Val Val Pro Ala Ala Thr Leu Gly Ala Leu Gly Tyr Gly Tyr
            100   105   110
Met Trp Trp Lys Gly Leu Ser Phe Ser Asp Leu Met Tyr Val Thr Lys
        115   120   125
Arg Gly Met Ala Asn Cys Val Ala Asn Leu Thr Gln His Leu Glu His
    130   135   140
Val Ser Glu Ala Leu Asn Ser Val Lys Lys His Leu Thr Gln Arg Ile
145   150   155   160
Glu Asn Leu Asp Gly Lys Met Asp Asp Gln Arg Glu Leu Ser Lys Glu
                165   170   175
Ile Lys Asn Glu Val Ser Ser Val Lys Ala Asn Leu Asp Gly Leu Gly

180 185 190
Asp Asp Leu Asp Phe Leu Gln Arg Met Val Ser Gly Leu Asp Val Arg
195 200 205
Met Gly Ser Leu Glu Tyr Lys Gln Asp Trp Ala Asn Glu Gly Val Arg
210 215 220
Tyr Leu Cys Gly Val Ala Ser Gly Gln Lys Val Glu Met Pro Lys Met
225 230 235 240
Leu Gln Glu Gln Ile Lys Ile Ser Gly Thr Ser Arg Gly Leu Leu Ser
245 250 255
Tyr Gln Asp Thr Pro Ser Leu Lys Gly Leu Lys Glu Ile Ala Asp Ala
260 265 270
Leu Thr Leu Ser Ile Asp Arg Ser Ala Ser Asp Ala Val Val Gln Asp
275 280 285
Gly Val Glu Arg Leu Asn Gly Lys Pro Lys Pro Leu Pro Arg Ala Ser
290 295 300
Ser Thr Thr Cys
305

<210> 645
<211> 197
<212> PRT
<213> Eucalyptus grandis

<400> 645
Met Glu Glu Tyr Gly Gln Met Asn Glu Asn Ser Ser Thr Gly Ser Arg
1 5 10 15
Gly Asn Asn Ser Phe Leu Tyr Ala Ser Pro Val Leu Gly Pro Ser Ser
20 25 30
Ser Gly Asn Ser Asn Tyr Gly Arg Gly Asn Ser Ser Gly Gly His Phe
35 40 45
Tyr Ser Gln Ser Gly Asp His Cys Phe Gln Ser Glu Ala Pro Pro His
50 55 60
Pro Val Val Lys Thr Glu Ala Thr Thr Ser His His Gly His Ala Gln
65 70 75 80
Lys Phe His His Tyr Ser Leu Val Arg Asp His His Asp Pro Ser Ala
85 90 95
Ser His His His His His Gln His His Gln His Gln Gln Leu Gln Thr
100 105 110
Ala Ser Glu Ser Ser Arg Glu Val Asp Ala Met Lys Ala Lys Ile Ile
115 120 125
Ala His Pro Gln Tyr Ser Asn Leu Leu Glu Ala Tyr Met Asp Cys Gln
130 135 140
Lys Val Gly Ala Pro Pro Glu Val Val Ala Lys Leu Ser Val Ala Arg
145 150 155 160
Gln Glu Phe Glu Ser Arg Gln Arg Ser Ser Val Ala Ser Ala Asp Gly
165 170 175
Ser Lys Asp Pro Glu Leu Asp Gln Phe Met Glu Ala Tyr Tyr Asp Met
180 185 190
Leu Val Lys Tyr Arg
195

<210> 646
<211> 304
<212> PRT
<213> Eucalyptus grandis

<400> 646

Glu Glu Gly Glu Asp Glu Gln Val Leu Gln Pro Lys Ile Lys Arg Lys
1   5   10   15
Arg Ser Leu Arg Val Arg Pro Arg His Thr Met Glu Arg Pro Glu Glu
            20   25   30
Lys Ser Ser Asn Gly Ala Leu Pro Val Gln Cys Gly Asp Ser Ala Phe
        35   40   45
Leu Pro Leu Gln Met Asp His Lys Tyr Gln Pro Gln Ser Arg Thr Ala
    50   55   60
Ser Glu Thr Asn Pro Phe Gly Glu Pro Thr Ala Ser Lys His Gly His
65   70   75   80
Gly Gly Pro Ser Met Lys Ser Lys Arg Gln Thr Ser Leu Arg Arg Ile
                85   90   95
Asn Asp Pro Ser Lys Leu His Pro Leu Pro Lys Ser Ser Arg Ser Asn
            100   105   110
His Ile Ser Ser Ser Asp Ala Ala Ala Glu Arg Ser Arg Glu Asn Trp
        115   120   125
Asn Gly Arg Val Ala Asn Pro Ser Gly Asn Ser Ser Val Gly Ala Gly
    130   135   140
Leu Ser Glu Ile Ile Gln Arg Lys Cys Lys Asn Val Val Ser Lys Leu
145   150   155   160
Gln Arg Arg Ile Asp Lys Glu Gly His His Ile Val Pro Leu Leu Thr
                165   170   175
Asp Leu Trp Lys Arg Met Gly Ser Pro Gly His Met Gly Gly Val Gly
            180   185   190
Ser Asn Leu Leu Asp Leu Arg Lys Ile Asp Gln Arg Ile Glu Lys Leu
        195   200   205
Glu Tyr Gly Asp Val Met Asp Leu Val Leu Asp Val Gln Leu Met Leu
    210   215   220
Lys Gly Ala Met Gln Phe Tyr Gly Phe Ser His Glu Val Arg Ser Glu
225   230   235   240
Ala Arg Lys Val His Asp Leu Phe Phe Asp Ile Leu Lys Ile Ala Phe
                245   250   255
Pro Asp Thr Asp Phe Glu Glu Val Arg Asn Ala Leu Ser Phe Ser Gly
            260   265   270
Pro Gly Ala Ala Ser Gln Ser Ala Pro Ser Pro Lys Gln Ala Ser Ala
        275   280   285
Gly Gln Ser Lys Arg His Arg Ala Leu Asn Glu Val Asp Ala Asp Lys
    290   295   300

<210> 647
<211> 166
<212> PRT
<213> Eucalyptus grandis

<400> 647
Val Val Gly Lys Ala Leu Gln Lys Cys Ala Lys Ile Ser Thr Asp Leu
1   5   10   15
Lys Lys Ala Leu Tyr Gly Ser Ser Val Ala Ser Cys Glu His Tyr Ser
            20   25   30
Glu Val Glu Ala Ser Ser Asn Arg Ile Val Thr Gln Asp Asp Val Asp
        35   40   45
Ala Ala Cys Gly Ala Asp Asp Thr Asp Phe Gln Pro Val Leu Lys Pro
    50   55   60
Tyr Gln Leu Val Gly Val Asn Phe Leu Leu Leu Leu His Arg Lys Gly
65   70   75   80
Val Gly Gly Glu Gly Gln Gly Val Leu Lys Tyr Asp Thr Ser Leu Ala
                85   90   95

Asn Gly Ala Ser Leu Tyr Ser Met Gln Ala Ile Leu Ala Asp Glu Met
100 105 110
Gly Leu Gly Lys Thr Ile Gln Ala Ile Thr Tyr Leu Thr Leu Leu Lys
115 120 125
His Leu Asn Asn Asp Pro Gly Pro His Leu Val Val Cys Pro Ala Ser
130 135 140
Leu Leu Glu Asn Trp Glu Arg Glu Leu Lys Arg Trp Cys Pro Ser Phe
145 150 155 160
Ser Val Leu Gln Tyr His
165

<210> 648
<211> 142
<212> PRT
<213> Eucalyptus grandis

<400> 648
Met Phe Met Val Asp Asp His Ala Leu Cys Leu Ser Cys Asn Cys Thr
1 5 10 15
Phe Asn Ile Leu Ala Cys Cys Asn Cys Ser Tyr Pro Lys Asp Ser Asp
20 25 30
Lys His Met Leu Ala Lys Gln Ala Gly Leu Thr Arg Ser Gln Val Ser
35 40 45
Asn Trp Phe Ile Asn Ala Arg Val Arg Leu Trp Lys Pro Met Val Glu
50 55 60
Glu Met Tyr Leu Glu Glu Thr Lys Ser Arg Glu Gln Ala Gly Ser Glu
65 70 75 80
Asn Gly Thr Thr Arg Arg Ala Ala Thr Lys Ser Asn Lys Asp Ala Ala
85 90 95
Gly Leu Lys Ser Ala Ser Gln Glu Asp Asn Ala Phe Gly Met Asn Ser
100 105 110
Ser Ile Lys Ser Phe Gln Ser Ser Pro Asn Lys Ala Leu Asn Gln Ala
115 120 125
Ala Ile Ser Pro Ser Glu Asn Ser Asn Ser Thr Ser Ser Thr
130 135 140

<210> 649
<211> 131
<212> PRT
<213> Eucalyptus grandis

<400> 649
Gly Ala Pro Ala Ser Gly Gln Ser Ser His Ala Leu Gln Val Glu Glu
1 5 10 15
Thr Arg Asp Ser Pro Leu Gly Phe Val Val Lys Val Glu Asp Arg Leu
20 25 30
Ser Ser Gly Ser Gly Gly Ser Ala Val Val Asp Glu Asp Gly Pro Gln
35 40 45
Leu Val Asp Ser Gly His Ser Tyr Phe His Cys Asn Asp Tyr Pro Gly
50 55 60
Ser Leu Val Ala Val Asn Gly Leu Gln Ser Glu Asp Asp Gly Ser Asp
65 70 75 80
Asp Ser Arg Gly Tyr Cys Ser Glu Ile Phe Ala Ala Ala Glu Glu Pro
85 90 95
His Gln Glu Gly Gly Val Pro Asn Gly Val Val Gly Val Ala Leu Val
100 105 110
Leu Gly Phe Arg Leu Leu Val Cys Ser Arg Lys Trp Phe Lys Ser Asn

115 120 125
Met Cys Ser
130

<210> 650
<211> 152
<212> PRT
<213> Eucalyptus grandis

<400> 650
Ser Arg Leu Gln Ala Val Asn Arg Lys Leu Thr Ala Met Asn Lys Leu
1 5 10 15
Leu Met Glu Glu Asn Asp Arg Leu Gln Lys Gln Val Ser Gln Leu Val
20 25 30
Tyr Glu Asn Ser Tyr Phe Arg Gln Gln Thr Gln Asn Ala Thr Leu Ala
35 40 45
Thr Thr Asp Thr Ser Cys Glu Ser Val Val Thr Ser Gly Gln His His
50 55 60
Leu Thr Pro Gln His Pro Pro Arg Asp Ala Ser Pro Ala Gly Leu Leu
65 70 75 80
Ser Ile Ala Glu Glu Thr Leu Thr Glu Phe Leu Ser Lys Ala Thr Gly
85 90 95
Thr Ala Val Glu Trp Val Gln Leu Pro Gly Met Lys Pro Gly Pro Asp
100 105 110
Ser Ile Gly Ile Ile Ala Ile Ser His Gly Cys Thr Gly Val Ala Ala
115 120 125
Arg Ala Cys Gly Leu Val Gly Leu Glu Pro Ser Arg Val Ala Glu Ile
130 135 140
Leu Lys Asp Arg Pro Ser Trp Tyr
145 150

<210> 651
<211> 151
<212> PRT
<213> Eucalyptus grandis

<400> 651
Asp Asp Val Cys Gly Gly Gly Lys Arg Pro Glu Arg Pro Phe Phe Cys
1 5 10 15
Thr Tyr Asp Gly Glu Glu Asn Gly Asp Asp Asp Tyr Asp Glu Tyr Leu
20 25 30
His Gln Pro Glu Lys Lys Arg Arg Leu Ser Ile Glu Gln Val Leu Tyr
35 40 45
Leu Glu Lys Ser Phe Glu Thr Asp Asn Lys Leu Glu Pro Asp Lys Lys
50 55 60
Val Gln Leu Ala Lys Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Ile
65 70 75 80
Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Met Glu Lys
85 90 95
Asp Phe Asp Lys Leu Gln Ala Ser Phe Asn Cys Leu Lys Ser Asp Tyr
100 105 110
Glu Ser Leu Leu Asn Glu Lys Glu Lys Leu Lys Ala Glu Val Ile His
115 120 125
Leu Thr His Gln Leu Glu Gln Arg Ser Asn Gly Ile Leu Asn His Ser
130 135 140
Thr Tyr Leu Asn Asn Cys Thr
145 150

<210> 652
<211> 85
<212> PRT
<213> Eucalyptus grandis

<400> 652
Thr Ala Lys Leu Lys Ser Ser Ile Phe Leu Leu Pro Leu His Gln Arg
1   5   10   15
Leu Ile Leu Lys Lys Ile Glu Arg Gln Gln Val Phe Arg Asp Gly Phe
            20   25   30
Leu Val Leu Leu Glu Gly Gly Leu Ala Met Gly Ile Glu Glu Ala Thr
        35   40   45
Lys Arg Gln Ser Ile Phe Ser Tyr Pro Glu Asp Leu Tyr Asn Glu Glu
    50   55   60
Tyr Tyr Asp Asp Gln Ala Pro Glu Lys Lys Arg Arg Leu Thr Pro Glu
65   70   75   80
Gln Val His Leu Leu
                85

<210> 653
<211> 99
<212> PRT
<213> Eucalyptus grandis

<400> 653
Met Glu Trp Glu Lys Gln Glu Gln His His Pro His His His His His
1   5   10   15
Pro His His His Pro Gln Gln Gln Gln Gln His His Gln Gln Gln Gln
            20   25   30
Gln Pro Gln Gln Gln Gln Gln Ala Lys Glu Ala Gln Gln Gln Gln Gln
        35   40   45
Gln Gln Gly Gly Glu Gly Met Gly Asn Gly Thr Ala Ala Gly Asn Gly
    50   55   60
Gly Gly Val Leu Tyr Val Lys Val Met Thr Asp Glu Gln Leu Glu Thr
65   70   75   80
Leu Arg Lys Gln Ile Ala Val Tyr Ala Ser Ile Cys Glu Gln Leu Val
                85   90   95
Glu Met His

<210> 654
<211> 150
<212> PRT
<213> Eucalyptus grandis

<400> 654
Ala Arg Gly Pro Val Leu Leu Ala Glu Tyr Thr Glu Phe Ser Gly Asn
1   5   10   15
Phe Thr Ser Val Ala Ser Gln Cys Leu Gln Lys Leu Pro Ala Thr Ser
            20   25   30
Asn Lys Phe Thr Tyr Asn Cys Asp Gly His Thr Phe Asn Tyr Leu Val
        35   40   45
Asp Asp Gly Leu Thr Tyr Cys Val Val Ala Val Glu Ser Val Gly Arg
    50   55   60
Gln Ile Pro Met Ala Phe Leu Glu Arg Ile Lys Glu Asp Phe Thr His
65   70   75   80

Arg Tyr Asp Ala Gly Lys Ala Ala Thr Ala Ser Ala Asn Ser Leu Asn
85 90 95
Arg Glu Phe Gly Pro Lys Leu Lys Glu His Met Gln Tyr Cys Val Asp
100 105 110
His Pro Glu Glu Ile Ser Lys Leu Ala Lys Val Lys Ala Gln Val Ser
115 120 125
Glu Val Lys Gly Val Met Met Glu Asn Ile Glu Lys Val Leu Asp Arg
130 135 140
Gly Glu Lys Ile Glu Leu
145 150

<210> 655
<211> 96
<212> PRT
<213> Eucalyptus grandis

<400> 655
Leu Gln Tyr Asp Trp His His Leu Ser Phe Cys Val Ile Ile Ser Val
1 5 10 15
Leu Asn Leu Gln Asn Thr Ile Asn Gly Ser Cys Ser Met Glu Ser Ile
20 25 30
Leu Glu Arg Tyr Glu Arg Tyr Thr Tyr Ala Glu Arg Gln Gln Val Ala
35 40 45
Thr Asp Ser Pro Gln Val Gln Gly Ser Trp Ser Leu Glu Tyr Pro Lys
50 55 60
Leu Val Ala Arg Ile Glu Val Leu Gln Arg Asn Ile Arg Asn Leu Ser
65 70 75 80
Gly Glu Glu Leu Asp Pro Leu Ser Leu Arg Glu Leu Gln Tyr Leu Glu
85 90 95

<210> 656
<211> 338
<212> PRT
<213> Eucalyptus grandis

<400> 656
Met Ala Thr Tyr Tyr His Gln Ser Ser Ser Asp Pro Asp Gly Ala Leu
1 5 10 15
Gln Thr Leu Val Leu Met Asn Pro Ala Ser Tyr Val His Tyr Ser Asp
20 25 30
Ala Pro Pro Pro His Gln Gln Pro Ser Ala Ile Phe Leu Asn Ser Ser
35 40 45
Thr Ala Gly Pro Pro Ala Ser Gln Thr Gln Gln Phe Val Gly Ile Pro
50 55 60
Leu Pro Gly Ser Ala Ala Asp Ser Gln Pro Ser Ser Met His Val Asn
65 70 75 80
His Asp Leu Ser Ser Met His Gly Phe Met Pro Arg Val Gln Tyr Asn
85 90 95
Leu Trp Ser Ser Leu Asp Pro Ser Thr Ala Ala Arg Glu Ala Ser Arg
100 105 110
Thr His Gln Gln Gln Gly Leu Ser Leu Ser Leu Ser Pro Gln Gln Pro
115 120 125
Pro Pro Thr Pro Ala Gly Tyr Arg Ser Phe Val Arg Ala Glu Arg Ser
130 135 140
Gly Asp Gly Ala Ala Gly Ser Gln His Pro Pro Ala Ile Ser Gly Gly
145 150 155 160
Glu Asp Val Arg Ile Ser Gly Gly Ser Pro Ser Ser Ala Ser Gly Val

165 170 175
Thr Asn Gly Ala Ala Val Gly Ser Gly Met Gln Gly Val Leu Leu Ser
180 185 190
Ser Lys Tyr Leu Lys Ala Ala Gln Glu Leu Leu Glu Glu Val Val Asn
195 200 205
Val Gly Asn Thr Gly Ile Lys Ala Glu Met Leu Lys Lys Ala Ser Gly
210 215 220
Gln Ser Lys Pro Gly Gly Glu Ser Ala Ala Leu Lys Glu Glu Gly Gly
225 230 235 240
Gly Asp Gly Ser Gly Lys Arg Gly Ala Glu Leu Ser Met Ala Glu Arg
245 250 255
Gln Glu Ile Gln Met Lys Lys Ala Lys Leu Ile Asn Met Leu Asp Glu
260 265 270
Val Glu Gln Arg Tyr Arg Gln Tyr His Asn Gln Met Gln Ile Val Ile
275 280 285
Ser Ser Phe Glu Gln Ala Ala Gly Ile Gly Ser Ala Arg Thr Tyr Thr
290 295 300
Ala Leu Ala Leu Gln Thr Ile Ser Lys Gln Phe Arg Cys Leu Lys Asp
305 310 315 320
Ala Ile Ala Gly Gln Ile Arg Ala Ala Asn Lys Ser Leu Gly Glu Glu
325 330 335
Asp Gly

<210> 657
<211> 123
<212> PRT
<213> Eucalyptus grandis

<400> 657
Val Glu Gln Val Gln Phe Leu Glu Lys Ser Phe Glu Val Glu Asn Lys
1 5 10 15
Leu Glu Pro Asp Arg Lys Ile Gln Leu Ala Lys Asp Leu Gly Leu Gln
20 25 30
Pro Arg Gln Val Ala Ile Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys
35 40 45
Thr Lys Gln Leu Glu Lys Asp Tyr Glu Thr Leu Gln Ala Ser Phe Asn
50 55 60
Thr Leu Lys Ser Asp Tyr Asp Thr Leu Ile Lys Glu Arg Asn Asp Leu
65 70 75 80
Lys Ala Glu Val Leu Asn Leu Thr Asp Lys Leu Leu His Lys Gly Asn
85 90 95
Glu Lys Glu Ser Ser Glu Ser Ser Ser Lys Ser Ser Gln Gly Leu Phe
100 105 110
Gln Asn Pro Ile Ala Asp Ser Val Ser Glu Asp
115 120

<210> 658
<211> 128
<212> PRT
<213> Eucalyptus grandis

<400> 658
Ala Ile Ile Ser Ser Asp Gln Met Glu Arg Arg Met Leu Glu Ala Ala
1 5 10 15
Arg Lys Gly Asn Val His Glu Leu Glu Asp Leu Ile Ser Ser Asn Glu
20 25 30

Leu Ile Leu Glu Glu Met Asp Leu Glu Gly Ala Gly His Thr Pro Leu
35 40 45
His Val Ala Cys Val Ala Gly His Leu Asp Phe Val Arg Glu Leu Leu
50 55 60
Lys Arg Thr Pro Lys Leu Ala Glu Lys Val Asn Thr Asp Gly Phe Ser
65 70 75 80
Pro Leu His Ile Ala Ala Ala Arg Gly Asp Val Glu Ile Ala Arg Glu
85 90 95
Leu Leu Thr Met Gly Pro His Leu Cys Ser Val Lys Gly Arg Glu Arg
100 105 110
Arg Ile Pro Leu His Tyr Ala Ala Met Asn Gly Lys Val Asp Val Met
115 120 125

<210> 659
<211> 159
<212> PRT
<213> Eucalyptus grandis

<400> 659
Arg Leu Ser Lys Asp Gln Ser Ala Val Leu Glu Glu Ser Phe Lys Glu
1 5 10 15
His Asn Thr Leu Asn Pro Lys Gln Lys Leu Ala Leu Ala Lys Gln Leu
20 25 30
Gly Leu Arg Pro Arg Gln Val Glu Val Trp Phe Gln Asn Arg Arg Ala
35 40 45
Arg Thr Lys Leu Lys Gln Thr Glu Val Asp Cys Glu Tyr Leu Lys Arg
50 55 60
Cys Cys Glu Ser Leu Thr Glu Glu Asn Arg Arg Leu Gln Lys Glu Val
65 70 75 80
Gln Glu Leu Arg Ala Leu Lys Leu Ser Pro Gln Phe Tyr Met His Leu
85 90 95
Ser Pro Pro Thr Thr Leu Thr Met Cys Pro Ser Cys Glu Arg Val Ala
100 105 110
Ala Pro Ser Pro Pro Ser Ala Val Gly Arg Pro Leu Ala Ala Val Pro
115 120 125
Ala His Pro Arg Pro Val Pro Leu Ile Asn Pro Trp Ala Pro Ala Ala
130 135 140
Ala Leu Glu Ile Val Asp Pro Pro Gly Leu Gln Glu Phe Asp Ile
145 150 155

<210> 660
<211> 115
<212> PRT
<213> Eucalyptus grandis

<400> 660
Met Ala Arg Glu Lys Ile Lys Ile Lys Lys Ile Asp Asn Val Thr Ala
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Arg Gly Leu Phe Lys Lys Ala
20 25 30
Gly Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Val Ile Phe
35 40 45
Ser Ala Thr Gly Lys Leu Phe Glu Tyr Ser Ser Ser Ser Met Lys Asp
50 55 60
Thr Leu Glu Arg Tyr Thr Leu His His Asn Asn Leu Glu Asn Met Asp
65 70 75 80
Gln Pro Ser Leu Glu Leu Gln Leu Glu His Ser Asn Asn Met Arg Leu

85 90 95
Ser Lys Glu Val Ala Glu Lys Ser His Arg Leu Arg Gln Leu Arg Gly
100 105 110
Glu Asp Leu
115

<210> 661
<211> 118
<212> PRT
<213> Eucalyptus grandis

<400> 661
Gln Val Ala Val Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys
1 5 10 15
Gln Leu Glu Arg Asp Tyr Asp Tyr Leu Lys Ser Ser Tyr Asp Ser Leu
20 25 30
Leu Ser Asp Tyr Asp Ser Ile Leu Lys Glu Asn Glu Lys Leu Lys Leu
35 40 45
Glu Val Tyr Ser Leu Thr Glu Lys Leu Gln Gly Lys Glu Val Asp Gly
50 55 60
Ala Pro Met Thr Gly Pro Ser Glu Pro Ala Pro Leu Glu Glu Ala Asp
65 70 75 80
Val Gln Ala Val Gln Phe Ser Ala Lys Val Glu Asp Arg Leu Ser Thr
85 90 95
Arg Ser Gly Gly Ser Ala Val Ile Asp Glu Glu Gly Pro Gln Leu Val
100 105 110
Asp Ser Gly Asn Ser Tyr
115

<210> 662
<211> 74
<212> PRT
<213> Eucalyptus grandis

<400> 662
Met Glu Ala Gly Arg Phe Leu Phe Asp Pro Pro Ala Leu Gln Gly Asn
1 5 10 15
Ile Leu Phe Leu Asp Lys Gly Ser Arg Ser Met Met Gly Met Glu Glu
20 25 30
Ser Pro Lys Arg Arg Arg Phe Phe Cys Ser Pro Asp Glu Leu Phe Asp
35 40 45
Glu Glu Tyr Tyr Asp Glu Gln Met Pro Glu Lys Lys Arg Arg Leu Thr
50 55 60
Pro Glu Gln Val Leu Leu Leu Glu Lys Ser
65 70

<210> 663
<211> 152
<212> PRT
<213> Eucalyptus grandis

<400> 663
Met Tyr Gly Leu Cys Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
1 5 10 15
Glu Glu Tyr Ser Glu Arg Ala Leu Met Ser Pro Glu Asn Leu Val Leu
20 25 30
Pro Ser Glu Tyr Gln Ala Trp Leu Cys Ser Ala Gly Phe Arg Asp Asn

35 40 45
Arg Ile Pro Met Tyr Gly Phe Gly Ser Glu Glu Phe Val Ser Ser Ala
50 55 60
Ser Gly Met Ser Glu Thr Ala Ser Val Thr Pro Asp Gln Glu Asp Ala
65 70 75 80
Ala Glu Thr Ala Ile Lys Ser Lys Ile Lys Ser His Pro Ser Tyr Pro
85 90 95
Arg Leu Leu His Ala Tyr Ile Asp Cys Gln Lys Val Gly Ala Pro Pro
100 105 110
Glu Val Val Gly Leu Leu Asp Glu Ile Arg Pro Glu Asn Gly Val Cys
115 120 125
Lys Arg Asp Ala Ala Val Ser Thr Cys Leu Gly Ala Asp Pro Glu Leu
130 135 140
Asp Glu Phe Met Glu Thr Tyr Thr
145 150

<210> 664
<211> 56
<212> PRT
<213> Eucalyptus grandis

<400> 664
Met Ala Leu Ala Met His Arg Glu Cys Ser Ser Lys Gln Met Asp Ala
1 5 10 15
Ser Lys Tyr Val Arg Tyr Thr Pro Glu Gln Val Glu Ala Leu Glu Arg
20 25 30
Val Tyr Asn Glu Cys Pro Lys Pro Ser Ser Leu Arg Arg Gln Gln Leu
35 40 45
Ile Arg Glu Cys Pro Ile Leu Cys
50 55

<210> 665
<211> 135
<212> PRT
<213> Eucalyptus grandis

<400> 665
Met Ala Gly Glu Glu Pro Tyr Ser Ala Asp Thr Asn Ser Asp Thr Phe
1 5 10 15
Ala Asp Glu Glu Thr Leu Ile Pro Ser Ser Ser Glu Ala Leu Glu Ser
20 25 30
Ala Trp Val Pro Thr Ser Ser Thr Ala His His Gly Ser Lys Ser Val
35 40 45
Val Asn Phe Glu Asp Val Cys Gly Gly Gly Asp Thr Asn Thr Ala Pro
50 55 60
Arg Pro Tyr Leu Arg Gln Ile Asp Leu Lys Glu Glu Ala Val Glu Glu
65 70 75 80
Asp Tyr Gly Asp Gly Asn Phe Gln Pro Pro Gly Lys Lys Arg Arg Leu
85 90 95
Ser Ala Asp Gln Val His Phe Leu Glu Arg His Phe Glu Val Glu Asn
100 105 110
Lys Leu Glu Pro Glu Arg Lys Ile Gln Leu Ala Lys Asp Leu Gly Leu
115 120 125
Gln Pro Arg Gln Val Ala Ile
130 135

<210> 666

<211> 226
<212> PRT
<213> Eucalyptus grandis

<400> 666
Ser Ala Ala Ser Leu Lys Ala Ser Pro Phe Gly Tyr Pro Gly Met Arg
1   5   10   15
Pro Thr Arg Phe Thr Gly Ser Gln Ile Ile Met Pro Leu Gly His Thr
            20   25   30
Ile Glu His Glu Glu Met Leu Glu Val Ile Arg Leu Glu Gly His Ser
        35   40   45
Leu Ala Gln Glu Asp Ala Phe Val Ser Arg Asp Ile His Leu Leu Gln
    50   55   60
Ile Cys Ser Gly Ile Asp Glu Asn Ala Val Gly Val Cys Ser Glu Leu
65   70   75   80
Ile Phe Ala Pro Ile Asp Glu Met Phe Pro Asp Asp Ala Pro Leu Leu
                85   90   95
Pro Ser Gly Phe Arg Ile Ile Pro Leu Asp Ser Lys Ser Ser Asp Val
            100   105   110
Gln Asp Ser Leu Thr Thr Asn Arg Thr Leu Asp Leu Thr Ser Ser Leu
        115   120   125
Glu Val Gly Pro Ala Ser Thr Asn Cys Val Gly Asp Val Ala Pro Ser
    130   135   140
His Gly Ala Arg Ser Val Leu Thr Ile Ala Phe Gln Phe Pro Phe Asp
145   150   155   160
Ala Asn Thr Gln Asp Asn Val Ala Val Met Ala Arg Gln Tyr Val Arg
                165   170   175
Ser Val Ile Ser Ser Val Gln Arg Val Ala Met Val Ile Ser Pro Ser
            180   185   190
Gly Leu Gly Pro Ser Ile Asn Pro Lys Leu Ser Gln Gly Ser Pro Glu
        195   200   205
Ala Leu Thr Leu Ala Asn Trp Ile Cys Gln Ser Tyr Arg His Val Leu
    210   215   220
Ile Ile
225

<210> 667
<211> 147
<212> PRT
<213> Eucalyptus grandis

<400> 667
Val Leu Leu Arg Phe Leu Thr Thr Ala Thr Thr Ile Cys Asn Asn Asn
1   5   10   15
Ala Gly Gly Ser Gly Ser Gly Ser Gly Ser Gly Cys Phe Phe Met Asp
            20   25   30
Asn Asp Val Lys Ala Lys Ile Met Ala His Pro His Tyr His Arg Leu
        35   40   45
Leu Ser Ala Tyr Val Asn Cys Gln Lys Val Gly Ala Pro Pro Gly Val
    50   55   60
Val Ala Lys Leu Glu Glu Ala Cys Ala Ser Ala Ala Ile Met Ala Gly
65   70   75   80
Asn Ser Gly Met Ser Asn Thr Gly Cys Ile Gly Glu Asp Pro Ala Leu
                85   90   95
Asp Gln Phe Met Glu Ala Tyr Cys Glu Met Leu Thr Lys Tyr Glu Gln
            100   105   110
Glu Leu Ser Lys Pro Phe Lys Glu Ala Met Leu Phe Leu Gln Arg Ile

115 120 125
Glu Cys Gln Phe Lys Ala Leu Thr Leu Gly Val Pro Ser Asp Ser Val
130 135 140
Ala Leu Ser
145

<210> 668
<211> 176
<212> PRT
<213> Eucalyptus grandis

<400> 668
Gly Ser Ser Lys Gly Val Gly Ile Pro Arg Leu Arg Phe Leu Asp Gln
1 5 10 15
Gln Leu Arg Gln Gln Arg Ala Leu Gln Gln Leu Gly Met Met Gln Gln
20 25 30
His Ala Trp Arg Pro Gln Arg Gly Leu Pro Glu Ser Ser Val Ser Ile
35 40 45
Leu Arg Ala Trp Leu Phe Glu His Phe Leu His Pro Tyr Pro Lys Asp
50 55 60
Ser Asp Lys Ile Leu Leu Ala Arg Gln Thr Gly Leu Thr Arg Ser Gln
65 70 75 80
Val Ser Asn Trp Phe Ile Asn Ala Arg Val Arg Leu Trp Lys Pro Met
85 90 95
Val Glu Glu Met Tyr Lys Glu Glu Ile Gly Asp Ala Glu Met Asp Ser
100 105 110
Asn Ser Ser Ser Asp Thr Ala Lys Pro Lys Thr Gly Asp Ile Lys Ser
115 120 125
Ser Met Glu Asp Arg Val Glu Glu Val Gln Gln Ser Ser Thr Ala Thr
130 135 140
Gln Arg Cys Ser Ser Gly Gln Leu Met Asp Ser Ser Phe Asp Arg Thr
145 150 155 160
Pro Asp Val Glu Met Ala Gly His Ser Val Gly Phe Asn Tyr Leu Asn
165 170 175

<210> 669
<211> 294
<212> PRT
<213> Eucalyptus grandis

<400> 669
Met Ser Glu Val Gln Val Thr Gln Met Lys Ser Asp Gly Thr Leu Glu
1 5 10 15
Glu Ser Gly Glu Ala Arg Arg Leu Arg Asn Ser Leu Glu Glu Met Ala
20 25 30
Asn Glu Gly Lys Ser Pro Ser Ile Leu Lys Glu Cys Gly Leu Pro Glu
35 40 45
Asn Ser Phe Val Ser Ile Pro Gln Lys Met Thr Glu Asn Arg Trp Ser
50 55 60
Trp Ser Glu Val Lys Tyr Leu Ser Asn Cys Leu Leu Leu Ala Leu Asp
65 70 75 80
Ala Ser Leu Glu His Ser Leu Leu Gly Ser Leu Met Asn Met Asp Arg
85 90 95
Tyr Ala Ala Ala Glu Ser Tyr His Lys Leu Ala Met Ala Phe Ala Pro
100 105 110
Val Pro Asp Leu His Ile Met Trp Leu Leu His Leu Cys Asp Ala His
115 120 125

Gln Glu Met Gln Ser Trp Ala Glu Ala Ala Gln Cys Ala Val Ala Val
130 135 140
Ala Gly Val Val Met Gln Ala Leu Val Ala Arg Asn Asp Gly Val Trp
145 150 155 160
Ser Lys Asp His Val Thr Ala Leu Arg Lys Ile Cys Pro Met Val Ser
165 170 175
Ser Glu Ile Ser Cys Glu Ala Ser Ala Ala Glu Val Glu Gly Tyr Gly
180 185 190
Ala Ser Lys Leu Thr Val Asp Ser Ala Val Lys Tyr Leu Gln Leu Ala
195 200 205
Asn Lys Leu Phe Ser Gln Ala Glu Leu Tyr His Phe Cys Ala Ser Ile
210 215 220
Leu Glu Leu Val Ile Pro Val Tyr Lys Ser Arg Arg Ala Tyr Gly Gln
225 230 235 240
Leu Ala Lys Cys His Thr Leu Leu Thr Asn Ile Tyr Glu Ser Ile Leu
245 250 255
Glu Gln Glu Ser Ser Pro Ile Pro Phe Thr Asp Ala Thr Tyr Tyr Arg
260 265 270
Val Gly Phe Tyr Gly Glu Lys Phe Gly Lys Leu Asp Arg Lys Glu Tyr
275 280 285
Val Tyr Arg Glu Pro Arg
290

<210> 670
<211> 144
<212> PRT
<213> Eucalyptus grandis

<400> 670
His Thr Lys Thr His His His His Ser Ile Ala Ile Ser Asn Pro Thr
1 5 10 15
Lys Ser Met Ser Gln Asp Tyr His His Pro Ser Ile Phe Ala Phe Ser
20 25 30
Asn Asn Gly Phe Glu Arg Pro Asp Val Ala Ala Ala Ser Ala Ala Ser
35 40 45
Asp Gln Glu Gln Gln His His Val Ala Gln Gln Ile Cys Arg Asp Lys
50 55 60
Leu Arg Val Gln Gly Phe Asp Gln Pro Pro Pro Pro Gln Leu Val Gly
65 70 75 80
Met Glu Glu Glu Pro Gly Gly Leu Pro Ala Tyr Glu Thr Ala Gly Met
85 90 95
Leu Ser Glu Met Phe Asn Phe Pro Pro Gly Gly Ala Ala Ala Ala Glu
100 105 110
Leu Leu Glu Gln Pro Met Ala Ser Gly Tyr Arg Ala Ala Arg Pro Ser
115 120 125
Leu Pro Thr Val Ser Gly Thr Ala Gln Lys Thr Gln Val Cys Ile Gly
130 135 140

<210> 671
<211> 125
<212> PRT
<213> Eucalyptus grandis

<400> 671
Ile Val Asp His Met Asp Leu Glu Pro Trp Ser Val Pro Glu Val Leu
1 5 10 15
Arg Pro Leu Tyr Glu Ser Ser Thr Leu Leu Ala Gln Arg Thr Thr Met

20 25 30
Ala Ala Leu Arg Asn Leu Arg Gln Ile Ser Gln Glu Val Ser Gln Pro
35 40 45
Asn Val Thr Gly Trp Gly Arg Arg Pro Ala Ala Leu Arg Ala Leu Gly
50 55 60
Gln Arg Leu Ser Lys Gly Phe Asn Glu Ala Val Asn Gly Phe Met Asp
65 70 75 80
Asp Gly Trp Ser Met Leu Glu Ser Asp Gly Val Asp Asp Val Thr Leu
85 90 95
Leu Ile Asn Ser Ser Pro Ala Lys Met Ala Gly Val Asn Ile Ser Tyr
100 105 110
Ala Ser Gly Phe Pro Ser Met Thr Ser Ala Val Leu Cys
115 120 125

<210> 672
<211> 104
<212> PRT
<213> Eucalyptus grandis

<400> 672
Met Ala Thr Ala Phe Ala Gly Thr Gln Gln Lys Cys Lys Ala Cys Asp
1 5 10 15
Lys Thr Val Tyr Leu Val Asp Gln Leu Thr Ala Asp Asn Lys Val Phe
20 25 30
His Lys Ala Cys Phe Arg Cys His His Cys Lys Gly Thr Leu Lys Leu
35 40 45
Ser Asn Tyr Cys Ser Phe Glu Gly Val Leu Tyr Cys Lys Pro His Phe
50 55 60
Asn Gln Leu Phe Lys Met Thr Gly Ser Leu Asp Lys Ser Phe Glu Gly
65 70 75 80
Thr Pro Lys Thr Val Asn Arg Ser Ser Glu Gln Gly Gln Ser Asn Ala
85 90 95
Lys Val Ser Ser Met Phe Ala Gly
100

<210> 673
<211> 131
<212> PRT
<213> Eucalyptus grandis

<400> 673
Asp Asp Asp Glu Asp Asp Asp Leu Phe Gln Asp Arg Phe Ser Ile Ala
1 5 10 15
Tyr Asn Leu Asp Arg Glu Phe Gly Pro Arg Leu Lys Glu His Met Gln
20 25 30
Tyr Cys Met Ser His Pro Glu Glu Met Ser Lys Leu Ser Lys Leu Lys
35 40 45
Ala Gln Ile Ser Glu Val Lys Gly Ile Met Val Asp Asn Ile Glu Lys
50 55 60
Val Leu Asp Arg Gly Glu Arg Ile Glu Leu Leu Val Asp Lys Thr Glu
65 70 75 80
Asn Leu Gln Phe Gln Ala Asp Ile Phe Gln Arg Gln Gly Arg Gln Leu
85 90 95
Arg Arg Lys Met Trp Phe Gln Asn Leu Gln Met Lys Val Val Val Ala
100 105 110
Gly Ala Val Val Ile Val Ile Phe Leu Leu Trp Leu Ile Ala Lys Trp
115 120 125

Gly Ser Lys
130

<210> 674
<211> 90
<212> PRT
<213> Eucalyptus grandis

<400> 674
Met Ala Thr Ala Phe Ala Gly Thr Gln Gln Lys Cys Lys Ala Cys Asp
1 5 10 15
Lys Thr Val Tyr Leu Val Asp Gln Leu Thr Ala Asp Asn Lys Val Phe
20 25 30
His Lys Ala Cys Phe Arg Cys His His Cys Lys Gly Thr Leu Lys Leu
35 40 45
Ser Asn Tyr Cys Ser Phe Glu Gly Val Leu Tyr Cys Lys Pro His Phe
50 55 60
Asn Gln Leu Phe Lys Met Thr Gly Ser Leu Asp Lys Ser Phe Glu Gly
65 70 75 80
Thr Pro Lys Thr Val Asn Arg Ser Ser Glu
85 90

<210> 675
<211> 95
<212> PRT
<213> Eucalyptus grandis

<400> 675
Val Tyr Ala Pro Ile Asp Ser Thr Ala Met Thr Ile Ala Leu Ser Gly
1 5 10 15
Glu Asp Thr Ser Thr Val Gln Ile Leu Pro Ser Gly Phe Thr Ile Ser
20 25 30
Ser Asp Gly Arg Ile Gly Thr Ser Ser Ser Lys Pro Ala Gly Thr Leu
35 40 45
Leu Thr Val Ala Phe Gln Ile Leu Val Ser Ser His Ser Gly Pro Glu
50 55 60
Gln Leu Ser Val Glu Ser Val Ala Thr Val Asn Thr Leu Ile Ser Ala
65 70 75 80
Thr Val Gln Lys Ile Lys Ala Ala Leu Asn Trp Ser Ala Ala Glu
85 90 95

<210> 676
<211> 141
<212> PRT
<213> Eucalyptus grandis

<400> 676
Gln Met Glu Arg Ala Ala Arg Lys Gly Asn Ile His Glu Leu Asn Asp
1 5 10 15
Leu Ile Ser Ser Asn Glu Gln Ile Leu Glu Glu Met Ala Leu Glu Gly
20 25 30
Ala Gly His Thr Pro Leu His Ile Ala Cys Met Gly Gly His Leu Asp
35 40 45
Phe Ile Arg Glu Leu Leu Lys His Met Pro Lys Leu Ala Glu Lys Val
50 55 60
Asn Pro Cys Gly Phe Ser Pro Leu His Ile Ala Ala Ala Arg Gly Asp
65 70 75 80

Val Glu Ile Ala Lys Glu Leu Leu Lys Val Asn Thr Asp Leu Cys Ser
85 90 95
Val Glu Gly Arg Glu Arg Arg Ile Pro Leu His Asp Ala Val Ile His
100 105 110
Gly Glu Val Asp Val Met Glu Ile Leu Leu Ser Thr Ser Pro Glu Ser
115 120 125
Val Glu Lys Lys Thr Ala Arg Lys Glu Thr Val Leu His
130 135 140

<210> 677
<211> 121
<212> PRT
<213> Eucalyptus grandis

<400> 677
Pro Ser Asp Ile Phe Leu Leu Gln Leu Cys Asn Gly Val Asp Glu Asn
1 5 10 15
Ala Val Gly Thr Cys Ala Glu Leu Leu Phe Ala Pro Ile Asp Ala Ser
20 25 30
Phe Ser Asp Asp Ala Pro Ile Ile Pro Ser Gly Phe Arg Ile Ile Pro
35 40 45
Leu Asp Pro Gly Ser Asp Ala Phe Ser Pro Asn Arg Thr Leu Asp Leu
50 55 60
Ala Ser Ala Leu Asp Val Gly Pro Thr Gly Asn Lys Ala Val Gly Asp
65 70 75 80
Asn Ser Gly His Ser Gly Asn Thr Lys Ser Val Met Thr Ile Ala Phe
85 90 95
Gln Phe Ala Phe Glu Leu His Leu Gln Glu Asn Val Ala Ser Met Ala
100 105 110
Arg Gln Tyr Leu Arg Ser Ile Ile Ala
115 120

<210> 678
<211> 34
<212> PRT
<213> Eucalyptus grandis

<400> 678
Met Gly Ile Asp Asp Leu Cys Asn Thr Gly Leu Val Leu Ser Leu Gly
1 5 10 15
Leu Glu Thr Pro Phe Lys Ile Glu Ala Gln Arg Gln Ala Lys Gln Arg
20 25 30
Leu Asn

<210> 679
<211> 110
<212> PRT
<213> Eucalyptus grandis

<400> 679
Ile Asn Ala Pro Glu Ser Asp Pro Ser Leu Thr Pro Ala Ile Asn Arg
1 5 10 15
His Pro Phe Ser Glu Thr Gln Ala Thr Thr Leu Leu Gln Ala Thr Thr
20 25 30
Ala Met Ile Ser Ser Ala Val Gln Val Ala Gly Pro Ala His Ile Asp
35 40 45

Asp Pro Cys Arg Arg Ser Ile Gly Gly Ser Thr Gly Leu Gly Gly Ala
    50   55   60
Thr Asp Ile Gly Ser Ala Leu Ile Arg Phe Gly Thr Ala Ala Ala Ala
65   70   75   80
Thr Gly Asp Val Ser Leu Thr Leu Gly Leu Arg His Ala Gly Asn Val
                85   90   95
Pro Glu Lys Ser Ser Phe Ser Val Thr Asp Leu Gly Gly Cys
            100   105   110

<210> 680
<211> 146
<212> PRT
<213> Eucalyptus grandis

<400> 680
Phe Asn Glu Gly Asn Gly Thr Pro Ser Lys Gln Lys Ile Lys Glu Ile
 1   5   10   15
Thr Thr Glu Leu Ser Gln His Gly Gln Ile Ser Glu Thr Asn Val Tyr
            20   25   30
Asn Trp Phe Gln Asn Arg Arg Ala Arg Ser Lys Arg Lys Met Gln Asn
        35   40   45
Ala Thr Gly Asn Asn Thr Glu Ser Glu Ala Glu Ala Glu Val Glu Ser
    50   55   60
Pro Lys Glu Met Lys Thr Lys Pro Glu Ile Phe Gln Ser Gln Gln Asn
65   70   75   80
Pro Val Ser Arg Asn Glu Asp Leu Cys Phe Gln Ser Pro Glu Ile Ser
                85   90   95
Ser Asp Leu His Phe Ala Asp Ser Gln Thr Lys Val Glu Ser Met Val
            100   105   110
Tyr Pro Asp Gly Ser Leu Arg Ser Arg Asn Arg Asn Leu Gly Gln Leu
        115   120   125
Ser Phe Tyr Asp Ala Met Met Ser Asn Ser Gly Gly Leu Ala Gly Asn
    130   135   140
Glu His
145

<210> 681
<211> 247
<212> PRT
<213> Eucalyptus grandis

<400> 681
Pro Ile Asp Glu Ser Phe Ala Asp Asp Ala Pro Leu Leu Pro Ser Gly
 1   5   10   15
Phe Arg Val Ile Gln Leu Asp Pro Lys Thr Asp Gly Pro Ala Pro Thr
            20   25   30
Arg Thr Leu Asp Leu Ala Ser Thr Leu Glu Val Gly Ser Gly Gly Ala
        35   40   45
Arg Pro Thr Cys Glu Ala Asp Ala Ser Thr Tyr Asn Leu Arg Ser Val
    50   55   60
Leu Thr Ile Ala Phe Gln Phe Val Phe Glu Asn His Leu Arg Asp Thr
65   70   75   80
Val Ala Ile Met Ala Arg Gln Tyr Val Arg Ser Val Val Gly Ser Val
                85   90   95
Gln Arg Val Ala Met Ala Ile Ala Pro Ser Arg Leu Gly Gly His Leu
            100   105   110
Gly Pro Lys Ser Leu Ser Gly Ser Pro Glu Ala Leu Thr Leu Ala Arg

115 120 125
Trp Ile Cys Arg Ser Tyr Arg Ile Cys Ala Gly Ala Glu Leu Leu Arg
130 135 140
Gly Asp Ser Gln Ala Gly Asp Ala Val Leu Lys Glu Phe Trp His His
145 150 155 160
Ser Asp Ala Ile Met Cys Cys Ser Val Asn Thr Asn Val Ala Ser Pro
165 170 175
Val Phe Thr Phe Ala Asn Gln Ala Gly Leu Asp Met Leu Glu Thr Thr
180 185 190
Leu Val Ala Leu Gln Asp Ile Met Leu Glu Lys Val Leu Asp Glu Gly
195 200 205
Gly Arg Lys Val Leu Ser Ser Glu Phe Pro Lys Ile Met Gln Gln Gly
210 215 220
Ile Ala Tyr Leu Pro Ala Gly Val Cys Ile Ser Ser Met Gly Arg Pro
225 230 235 240
Val Ala Tyr Glu Gln Ala Val
245

<210> 682
<211> 147
<212> PRT
<213> Eucalyptus grandis

<400> 682
Val Arg Leu Thr Lys Glu Gln Ser Ala Leu Leu Glu Glu Ser Phe Lys
1 5 10 15
Gln His Ser Thr Leu Asn Pro Lys Gln Lys Gln Ala Leu Ala Arg Gln
20 25 30
Leu Asn Leu Arg Pro Arg Gln Val Glu Val Trp Phe Gln Asn Arg Arg
35 40 45
Ala Arg Thr Lys Leu Lys Gln Thr Glu Val Asp Cys Glu Phe Leu Lys
50 55 60
Lys Cys Cys Glu Thr Leu Thr Asp Glu Asn Arg Arg Leu Gln Lys Glu
65 70 75 80
Leu Gln Glu Leu Lys Ala Leu Lys Leu Ala Gln Pro Phe Tyr Met His
85 90 95
Met Pro Ala Ala Thr Leu Thr Met Cys Pro Ser Cys Glu Arg Ile Gly
100 105 110
Ala Gly Pro Ser Val Asp Gly Ala Ala Pro Thr Lys Gly Pro Phe Ser
115 120 125
Met Thr Thr Lys Ser His Leu Tyr Ser His His Phe Thr Asn Pro Ser
130 135 140
Ala Ala Cys
145

<210> 683
<211> 121
<212> PRT
<213> Eucalyptus grandis

<400> 683
Pro Leu Glu Phe His Asn Asp Val Arg Leu Thr Phe Ser Asn Ala Met
1 5 10 15
Thr Tyr Asn Pro Pro Ser Asn Asp Val His Leu Met Ala Asp Thr Leu
20 25 30
Asn Lys Phe Phe Asp Ile Arg Trp Lys Thr Ile Glu Lys Lys Leu Val
35 40 45

Val Gly Gly Pro Gln Pro Ser Ser Thr Lys Ser Ala Pro Pro Glu Glu
    50   55   60
Val Lys Ala Ala Lys Ser Thr Ala Leu Pro Lys Lys Arg Lys Met Ser
65   70   75   80
Ser Gln Gln Glu Val Met Pro Ala Pro Leu Leu Gln Val Met Thr Asp
                85   90   95
Glu Glu Lys His Lys Leu Gly Gln Glu Leu Glu Ser Leu Leu Gly Glu
            100   105   110
Met Pro Glu Asn Ile Ile Asp Phe Leu
        115   120

<210> 684
<211> 36
<212> PRT
<213> Eucalyptus grandis

<400> 684
Met Gln Leu Tyr Ala Pro Thr Thr Leu Ala Pro Ala Arg Asp Phe Trp
 1   5   10   15
Leu Leu Arg Tyr Thr Ser Val Met Glu Asp Gly Ser Leu Val Val Cys
            20   25   30
Glu Arg Ser Ile
        35

<210> 685
<211> 120
<212> PRT
<213> Eucalyptus grandis

<400> 685
Arg Glu Leu Lys Thr Gln Leu Leu Arg Lys Tyr Ser Gly Tyr Leu Gly
 1   5   10   15
Ser Leu Lys Gln Glu Phe Met Lys Lys Arg Lys Lys Gly Lys Leu Pro
            20   25   30
Lys Glu Ala Arg Gln Gln Leu Leu Asp Trp Trp Ser Arg His Tyr Lys
        35   40   45
Trp Pro Tyr Pro Ser Glu Ser Gln Lys Leu Ala Leu Ala Glu Ser Thr
    50   55   60
Gly Leu Asp Gln Lys Gln Ile Asn Asn Trp Phe Ile Asn Gln Arg Lys
65   70   75   80
Arg His Trp Lys Pro Ser Glu Asp Met Gln Phe Val Val Met Asp Ala
                85   90   95
Thr His Pro His Tyr Tyr Met Asp Asn Met Leu Gly Asn Pro Phe Pro
            100   105   110
Met Asp Ile Ser Pro Thr Leu Leu
        115   120

<210> 686
<211> 93
<212> PRT
<213> Eucalyptus grandis

<400> 686
Trp Pro Phe Lys Glu Pro Val Asp Ala Arg Glu Val Pro Asp Tyr Tyr
 1   5   10   15
Asp Ile Ile Lys Asp Pro Met Asp Leu Lys Thr Met Thr Lys Arg Val
            20   25   30

Glu Ser Glu Gln Tyr Tyr Val Thr Leu Glu Met Phe Ile Ala Asp Val
35 40 45
Lys Arg Met Phe Ala Asn Ala Arg Thr Tyr Asn Ser Pro Asp Thr Ile
50 55 60
Tyr Phe Lys Ile Ala Thr Arg Leu Glu Ala His Phe Gln Ser Lys Val
65 70 75 80
Gln Ser Asn Leu Gln Ser Gly Ala Gly Lys Ile Gln Gln
85 90

<210> 687
<211> 185
<212> PRT
<213> Eucalyptus grandis

<400> 687
Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15
Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45
Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Ser Ile Arg Ser
50 55 60
Thr Ile Glu Arg Tyr Lys Lys Ala Asn Ser Asp Ser Ser Asn Thr Ser
65 70 75 80
Thr Val Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala Lys
85 90 95
Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu Met
100 105 110
Gly Asp Ser Leu Ser Ser Leu Ser Val Lys Glu Leu Lys Gln Leu Glu
115 120 125
Asn Arg Leu Glu Arg Gly Ile Thr Arg Ile Arg Ser Lys Lys His Glu
130 135 140
Met Leu Leu Thr Glu Ile Glu Tyr Leu Gln Lys Lys Glu Ile Glu Leu
145 150 155 160
Glu Asn Glu Ser Val Phe Leu Arg Thr Lys Ile Ala Glu Val Asp Arg
165 170 175
Ile Gln Gln Gly Asn Met Val Ala Ala
180 185

<210> 688
<211> 130
<212> PRT
<213> Eucalyptus grandis

<400> 688
Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Ala Asn Ser
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30
Gln Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Val Ile Ile Phe
35 40 45
Ser Asn Thr Gly Lys Leu Tyr Glu Phe Ser Ser Ser Gly Met Lys Gln
50 55 60
Ile Leu Ser Arg Tyr Asn Arg Cys Gln Asp Ser Pro Glu Ser Thr Val
65 70 75 80
Val Glu Tyr Lys Pro Glu Ser Thr Lys Glu Asp Asp Lys Val Val Asp

85 90 95
Thr Leu Lys Asp Glu Ile Ala Glu Leu Gln Met Arg Gln Leu Arg Leu
100 105 110
Leu Gly Lys Asp Leu Asn Gly Leu Ser Ile Lys Glu Leu Gln His Leu
115 120 125
Glu Gln
130

<210> 689
<211> 117
<212> PRT
<213> Eucalyptus grandis

<400> 689
Leu Asp Thr Ala Leu Lys Arg Ile Arg Thr Arg Lys Asn Gln Leu Met
1 5 10 15
His Glu Ser Ile Ser Gln Leu Gln Lys Lys Glu Lys Ser Leu Gln Glu
20 25 30
Gln Asn Asn Val Leu Ser Lys Lys Ile Lys Glu Asn Glu Lys Val Met
35 40 45
Arg Glu Ser Gly Gln Trp Glu Gln Gln Thr Pro Ala Pro Thr Thr Ser
50 55 60
Ser Phe Met Leu Gln Pro Thr Leu Pro Leu Pro Ser Leu Thr Ile Gly
65 70 75 80
Asn Thr Phe Gln Thr Pro His Val Leu Gly Gly Ala Glu Gln Glu Glu
85 90 95
Arg Ser Gln Ala Arg Pro Ala Asn Thr Leu Met Pro Pro Trp Met Ile
100 105 110
Arg Arg Ser Asn Glu
115

<210> 690
<211> 140
<212> PRT
<213> Eucalyptus grandis

<400> 690
Tyr Leu Ser Asp Leu Met Ser Ser Gly His Lys His Lys Arg Arg Lys
1 5 10 15
Gln Leu Gln Thr Val Glu Leu Lys Val Arg Met Asp Cys Asp Gly Cys
20 25 30
Glu Leu Lys Val Arg Lys Ala Leu Ser Ser Leu Asp Gly Val Lys Thr
35 40 45
Val Glu Ile Asn Arg Lys Gln Gln Lys Val Thr Val Asn Gly Tyr Val
50 55 60
Asp Gln Asn Lys Val Leu Lys Arg Ala Lys Ser Thr Gly Lys Lys Ala
65 70 75 80
Glu Ile Trp Pro Tyr Ile Pro Tyr Ser Val Val Ala His Gln Pro Tyr
85 90 95
Ile Ala Gln Ser Tyr Asp Lys Lys Ala Pro Pro Gly His Val Arg Lys
100 105 110
Val Glu Pro Thr Ala Thr Ser Ala Ile Val Thr Arg His Glu Asp Pro
115 120 125
Tyr Met Thr Leu Phe Ser Asp Asp Asn Pro Asn Ala
130 135 140

<210> 691

<211> 68
<212> PRT
<213> Eucalyptus grandis

<400> 691

```
Arg Ile Glu Asn Lys Ile Asn Arg Gln Val Thr Phe Ala Lys Arg Lys
 1               5                  10                  15
Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala
            20                  25                  30
Glu Val Ala Leu Ile Ile Phe Ser Ser Arg Gly Lys Leu His Glu Phe
        35                  40                  45
Cys Ser Gly Pro Arg Tyr Arg Val Phe Val Cys Tyr His Leu Phe Phe
    50                  55                  60
Ser Leu Met Leu
65
```

<210> 692
<211> 140
<212> PRT
<213> Eucalyptus grandis

<400> 692

```
Ile Asn Ala Gly Arg Phe Asp Gln Arg Thr Thr His Glu Glu Arg Arg
 1               5                  10                  15
Leu Thr Leu Glu Thr Leu Leu His Asp Glu Glu Arg Tyr Gln Glu Thr
            20                  25                  30
Val His Asp Val Pro Ser Leu Gln Glu Val Asn Arg Met Ile Ala Arg
        35                  40                  45
Ser Glu Glu Glu Val Glu Leu Phe Asp Gln Met Asp Glu Glu Leu Asp
    50                  55                  60
Trp Thr Glu Glu Met Thr Asn Tyr Glu Leu Val Pro Lys Trp Leu Arg
65                  70                  75                  80
Ala Ser Thr Lys Glu Val Asn Ala Ala Ile Ala Thr Leu Ser Lys Lys
                85                  90                  95
Pro Ser Lys Asn Thr Leu Phe Ala Ser Thr Ile Val Glu Pro Asn Glu
            100                 105                 110
Pro Val Ser Glu Ser Val Arg Lys Arg Gly Arg Pro Lys Ser Lys Lys
        115                 120                 125
His Pro Asn Tyr Lys Glu Leu Asp Asp Asp Asn Glu
    130                 135                 140
```

<210> 693
<211> 126
<212> PRT
<213> Eucalyptus grandis

<400> 693

```
Ala Ala Gln Leu Lys His Ser Cys Glu Leu Leu Gly Glu Lys Asp Gly
 1               5                  10                  15
Ala Gly Ser Ser Gly Ile Thr Lys Gly Glu Thr Pro Arg Leu Lys Leu
            20                  25                  30
Leu Asp Gln Ser Leu Arg Gln Gln Arg Ala Phe His Gln Met Gly Met
        35                  40                  45
Met Glu Gln Glu Ala Trp Arg Pro Gln Arg Gly Leu Pro Glu Arg Ser
    50                  55                  60
Val Asn Ile Leu Arg Ala Trp Leu Phe Glu His Phe Leu His Pro Tyr
65                  70                  75                  80
```

Pro Ser Asp Ala Asp Lys His Leu Leu Ala Arg Gln Thr Gly Leu Ser
85 90 95
Arg Asn Gln Val Ser Asn Trp Phe Ile Asn Ala Arg Val Arg Leu Trp
100 105 110
Lys Pro Met Val Glu Glu Met Tyr Gln Gln Glu Ser Lys Glu
115 120 125

<210> 694
<211> 53
<212> PRT
<213> Eucalyptus grandis

<400> 694
Phe Cys Ser Met Leu Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr
1 5 10 15
Gly Ala Leu Glu Pro Asn Val Ser Ala Arg Glu Ser Leu Glu Leu Ser
20 25 30
Cys Gln Gln Glu Tyr Leu Arg Leu Lys Ala Arg Tyr Glu Ala Leu Gln
35 40 45
Arg Thr Gln Arg Tyr
50

<210> 695
<211> 86
<212> PRT
<213> Eucalyptus grandis

<400> 695
Lys Ile Glu Asp Val Arg Glu Glu Ile Leu Arg Lys Arg Arg Ala Gly
1 5 10 15
Lys Leu Pro Gly Asp Thr Thr Ser Val Leu Lys Asn Trp Trp Gln Gln
20 25 30
His Ser Lys Trp Pro Tyr Pro Thr Glu Asp Asp Lys Ala Lys Leu Val
35 40 45
Glu Glu Thr Gly Leu Gln Leu Lys Gln Ile Asn Asn Trp Phe Ile Asn
50 55 60
Gln Arg Lys Arg Asn Trp His Asn Asn Ser Gln Ser Val Thr Ser Leu
65 70 75 80
Lys Ser Lys Arg Lys Arg
85

<210> 696
<211> 99
<212> PRT
<213> Eucalyptus grandis

<400> 696
Pro Val Asp Ile Thr Gly Met Gln Ala Val Met Thr Gly Cys Asp Ser
1 5 10 15
Ser Asn Ile Ala Ala Leu Pro Ser Gly Phe Ser Ile Leu Pro Asp Gly
20 25 30
Ile Glu Ser Arg Pro Leu Val Ile Ser Ser Arg His Glu Glu Lys Ser
35 40 45
Ser Glu Gly Gly Ser Leu Leu Thr Ile Ala Phe Gln Ile Leu Thr Asn
50 55 60
Thr Ser Pro Thr Ala Lys Leu Thr Val Glu Ser Val Glu Ser Val Asn
65 70 75 80

Thr Leu Ile Ser Cys Thr Leu Arg Asn Ile Arg Thr Ser Leu Gln Cys
85 90 95
Glu Asp Gly

<210> 697
<211> 134
<212> PRT
<213> Eucalyptus grandis

<400> 697
Glu Asn Lys Ile Asn Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly
1 5 10 15
Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val
20 25 30
Ala Leu Ile Ile Phe Ser His Arg Gly Lys Leu Tyr Glu Phe Cys Ser
35 40 45
Ser Ser Ser Met Leu Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr
50 55 60
Gly Ala Pro Glu Pro Ser Ile Ser Thr Arg Glu Ala Gln Leu Glu Leu
65 70 75 80
Ser Ser Gln Gln Glu Tyr Leu Lys Leu Lys Ala Arg Tyr Glu Ala Leu
85 90 95
Gln Arg Thr Gln Arg Asn Leu Leu Gly Glu Glu Leu Gly Pro Leu Ser
100 105 110
Ser Lys Glu Leu Glu Ser Leu Glu Arg Gln Leu Asp Ser Ser Leu Lys
115 120 125
Gln Ile Arg Ser Thr Arg
130

<210> 698
<211> 145
<212> PRT
<213> Eucalyptus grandis

<400> 698
Met Gln Glu Pro Asn Leu Ala Met Met Gly Gly Gly Gly Gly Gly Gly
1 5 10 15
Gly Gly Gly Gly Gly Ile Val Gly Gly Gly Gly Gly Gly Leu Gly Ser
20 25 30
Glu Ala Ser Phe Ser Gly Asp His Pro Gln Arg Gln Leu Lys Gly Glu
35 40 45
Ile Ala Ser His Pro Met Tyr Glu Gln Leu Leu Ser Ala His Val Ala
50 55 60
Cys Leu Arg Val Ala Thr Pro Ile Asp Gln Leu Pro Leu Ile Asp Ala
65 70 75 80
Gln Leu Ala Gln Ser His His Leu Leu Arg Ser Tyr Ala Ser Ser Val
85 90 95
Gln His Gly His Ser Ser Leu Ser Pro His Asp Arg Gln Glu Leu Asp
100 105 110
His Phe Leu Ala Gln Tyr Leu Val Val Leu Cys Ser Phe Lys Glu Gln
115 120 125
Leu Gln Gln His Val Arg Val His Ala Val Glu Ala Val Met Ala Cys
130 135 140
Arg
145

<210> 699
<211> 160
<212> PRT
<213> Eucalyptus grandis

<400> 699
His Pro Asp Glu Lys Gln Arg Gln Gln Leu Ser Lys Gln Leu Gly Leu
1 5 10 15
Ala Pro Arg Gln Val Lys Phe Trp Phe Gln Asn Arg Arg Thr Gln Leu
20 25 30
Lys Ala Ile Gln Glu Arg His Glu Asn Ser Leu Leu Lys Thr Glu Met
35 40 45
Glu Lys Leu Arg Asp Glu Asn Lys Ala Met Arg Asp Thr Ile Gln Lys
50 55 60
Ser Cys Cys Pro Asn Cys Gly Ser Ala Thr Thr Ser Arg Asp Thr Ala
65 70 75 80
Leu Thr Thr Gln Glu Gln Gln Leu Arg Ile Glu Asn Ala Arg Leu Lys
85 90 95
Ala Glu Val Glu Lys Leu Arg Thr Ala Leu Gly Lys Tyr Thr Pro Gly
100 105 110
Thr Ala Ser Pro Ser Cys Ser Ala Gly Asn Asp Gln Glu Asn Arg Ser
115 120 125
Ser Leu Asp Phe Tyr Thr Gly Ile Phe Gly Leu Asp Lys Ser Lys Ile
130 135 140
Met Glu Leu Val Asn Gln Ala Met Glu Glu Leu Lys Lys Met Ala Thr
145 150 155 160

<210> 700
<211> 72
<212> PRT
<213> Eucalyptus grandis

<400> 700
Pro Thr Thr Arg Thr Pro Gly Thr Lys Lys Lys Lys Ser Ser Asn Lys
1 5 10 15
Lys Ser Leu Gln Gly Glu Arg Glu Arg Ala Arg Thr Gln Glu Thr Leu
20 25 30
Asn Leu Ser Ser Pro Val Ser Ser Lys Arg Ala Arg Glu Lys Glu Arg
35 40 45
Glu Arg Glu Arg Glu Arg Glu Arg Glu Gly Val Glu Val Glu Glu Arg
50 55 60
Ala Arg Glu Glu Glu Gly Val Tyr
65 70

<210> 701
<211> 205
<212> PRT
<213> Eucalyptus grandis

<400> 701
Leu Ile Arg Pro Cys Glu Gly Gly Gly Ala Ile Ile His Ile Val Asp
1 5 10 15
His Val Asp Leu Asp Ala Trp Ser Val Pro Glu Val Leu Arg Pro Leu
20 25 30
Tyr Glu Ser Ser Lys Ile Leu Ala Gln Lys Met Thr Val Ala Ala Leu
35 40 45
Arg His Ile Arg Gln Ile Ala Gln Glu Ser Ser Gly Glu Ile Gln Tyr

50 55 60
Gly Gly Ser Arg Gln Pro Ala Val Leu Arg Thr Phe Ser Gln Lys Leu
65 70 75 80
Cys Arg Gly Phe Asn Asp Ala Val Asn Gly Phe Val Asp Asp Gly Trp
85 90 95
Ser Val Leu Ser Ser Asp Gly Val Glu Asp Val Thr Ile Ala Val Asn
100 105 110
Ser Ser Pro Asn Lys Phe Leu Gly Ser Gln Tyr Asn Ala Thr Ile Phe
115 120 125
Pro Asn Phe Gly Arg Gly Val Leu Cys Ala Lys Ala Ser Met Leu Leu
130 135 140
Gln Asn Val Pro Pro Ala Val Leu Val Arg Phe Leu Arg Glu His Arg
145 150 155 160
Ser Glu Trp Ala Asp His Gly Ile Asp Ala Tyr Ser Ala Ala Ser Leu
165 170 175
Lys Thr Ser Ser Tyr Ala Ile Pro Cys Val Arg Pro Gly Gly Phe Pro
180 185 190
Ser Ser His Val Ile Leu Pro Leu Ala His Thr Val Glu
195 200 205

<210> 702
<211> 126
<212> PRT
<213> Eucalyptus grandis

<400> 702
Leu Phe Glu His Phe Leu His Pro Tyr Pro Lys Asp Ser Asp Lys Val
1 5 10 15
Met Leu Ala Lys Gln Thr Gly Leu Thr Arg Ser Gln Val Ser Asn Trp
20 25 30
Phe Ile Asn Ala Arg Val Arg Leu Trp Lys Pro Met Val Glu Glu Met
35 40 45
Tyr Thr Glu Glu Ile Lys Glu Gln Glu Gln Asn Gly Gly Gly Ala Glu
50 55 60
Glu Lys Pro Ser Lys Ser Glu Arg Glu Asp Ser Ala Ser Lys Ser Ser
65 70 75 80
Gly Leu Gln Asp Lys Ala Pro Asn Ser Asn Glu Asn Ser Thr Lys Ser
85 90 95
Phe Lys Pro Lys Glu Ile Thr Ser Arg Asn His Asp Thr Pro Ala Ile
100 105 110
Ser Thr Asn Ser Ala Ser Ser Ile Gly Gly Asn Val Arg Ser
115 120 125

<210> 703
<211> 116
<212> PRT
<213> Eucalyptus grandis

<400> 703
Asp Lys Leu Met Lys His Glu Tyr Gly Trp Val Phe Asn Thr Pro Val
1 5 10 15
Asp Val Lys Gly Leu Gly Leu His Asp Tyr Tyr Ser Ile Ile Lys His
20 25 30
Pro Met Asp Leu Gly Ser Val Lys Thr Arg Leu Asn Arg Asn Trp Tyr
35 40 45
Lys Ser Pro Lys Glu Phe Ala Glu Asp Val Arg Leu Thr Phe Arg Asn
50 55 60

Ala Met Thr Tyr Asn Pro Glu Gly Gln Asp Val His Val Met Ala Glu
65 70 75 80
Ile Leu Tyr Lys Ile Phe Glu Asp Arg Trp Ala Ile Ile Glu Ser Asp
85 90 95
Tyr Asn Arg Glu Met Arg Phe Ala Leu Asp Tyr Asp Met Gly Leu Pro
100 105 110
Thr Pro Thr Ser
115

<210> 704
<211> 116
<212> PRT
<213> Eucalyptus grandis

<400> 704
Pro Ser Tyr Gly Asn Gly Tyr Ser Pro Pro Gln Tyr Gly Asn Gly Pro
1 5 10 15
Ala Tyr His Pro Met Pro Thr Tyr Tyr Pro Met Gly Tyr Arg Ile Cys
20 25 30
Ala Gly Cys Asn Thr Glu Ile Gly His Gly Arg Phe Leu Ser Cys Met
35 40 45
Asn Ala Val Trp His Pro Glu Cys Phe Cys Cys Arg Ala Cys Thr Leu
50 55 60
Pro Ile Ser Asp Tyr Glu Phe Ser Leu Ser Gly Asn Tyr Pro Tyr His
65 70 75 80
Lys Ser Cys Tyr Lys Glu His Tyr His Pro Lys Cys Asp Val Cys Ser
85 90 95
His Phe Ile Pro Thr Asn Leu Ala Gly Leu Ile Glu Tyr Arg Ala His
100 105 110
Pro Phe Trp Ser
115

<210> 705
<211> 96
<212> PRT
<213> Eucalyptus grandis

<400> 705
Thr Trp Pro Glu Asp Ile Cys Ser Val Lys Ser Asp Met Phe Asp Ser
1 5 10 15
Glu Ser Pro His Tyr Thr Asp Ala Ala His Ser Ser Leu Leu Glu Pro
20 25 30
Gly Asp Ser Ser Tyr Ala Phe Glu Pro Asp His Ser Asp Leu Ser Gln
35 40 45
Asp Glu Glu Asp Asn Leu Ser Lys Ser Leu Leu Ser Thr Arg Asn Tyr
50 55 60
Pro Lys Leu Glu Asn Ser Asp Tyr Ala Ile Leu Pro Pro Asn Ser Cys
65 70 75 80
Asn Phe Gly Phe His Ala Glu Asp Pro Ala Phe Trp Pro Trp Ser Tyr
85 90 95

<210> 706
<211> 149
<212> PRT
<213> Eucalyptus grandis

<400> 706

Glu Gly Lys Leu Gly His Ser Asn Ser Ser Asn Ser Leu Asp Asn Gly
1   5   10   15
Lys Tyr Val Arg Tyr Thr Pro Glu Gln Val Glu Ala Leu Glu Arg Leu
            20   25   30
Tyr His Glu Cys Pro Lys Pro Ser Ser Leu Arg Arg Gln Gln Leu Ile
        35   40   45
Arg Glu Cys Pro Ile Leu Ser Asn Ile Glu Pro Lys Gln Ile Lys Val
    50   55   60
Trp Phe Gln Asn Arg Arg Cys Arg Glu Lys Gln Arg Lys Glu Ala Ser
65   70   75   80
Arg Leu Gln Ala Val Asn Arg Lys Leu Thr Ala Met Asn Lys Leu Leu
                85   90   95
Met Glu Glu Asn Asp Arg Leu Gln Lys Gln Val Ser Gln Leu Val Tyr
            100   105   110
Glu Asn Gly Tyr Phe Arg Gln His Thr Gln Asn Thr Thr Leu Ala Thr
        115   120   125
Lys Asp Thr Ser Cys Glu Ser Val Val Thr Ser Gly Gln His Gln Leu
    130   135   140
Thr Ser Gln His Pro
145

<210> 707
<211> 134
<212> PRT
<213> Eucalyptus grandis

<400> 707
Glu Glu Asn Met Gln His Leu Lys Asp Glu Ala Ala Asn Met Met Lys
1   5   10   15
Lys Ile Glu Leu Leu Glu Asp Ser Arg Arg Lys Leu Leu Gly Glu Gly
            20   25   30
Leu Gly Ser Cys Ser Ile Glu Glu Leu Gln Gln Ile Glu Gln Gln Leu
        35   40   45
Glu Arg Ser Val Ile Ser Ile Arg Ala Arg Lys Thr Gln Val Phe Lys
    50   55   60
Glu Gln Ile Asp Lys Leu Lys Glu Lys Glu Lys Met Leu Thr Ala Glu
65   70   75   80
Asn Ala Ile Leu Thr Glu Lys Cys Gly Ile Lys Pro Pro Gln Arg Ala
                85   90   95
Asn Glu Cys Arg Asp Ser Pro Leu Leu Arg Glu Ser Thr Pro Ser Ser
            100   105   110
Glu Val Glu Thr Gly Leu Phe Ile Gly Pro Pro Glu Thr Arg Ser Arg
        115   120   125
Arg Leu Pro Phe Gln Asn
    130

<210> 708
<211> 124
<212> PRT
<213> Eucalyptus grandis

<400> 708
Asp Lys Asp Pro Lys Arg Pro Val Arg Asp Pro Val Phe Ala Ala Val
1   5   10   15
Pro Asp Lys Phe Val Ala Ser Met Met Lys Arg Cys Gly Leu Ile Leu
            20   25   30
Thr Lys Val Met Lys His Lys His Gly Trp Val Phe Asn Thr Pro Val

35 40 45
Asp Ala Val Gly Leu Gly Leu His Asp Tyr His Gln Ile Ile Lys Asn
50 55 60
Pro Met Asp Leu Gly Thr Val Lys Thr Asn Leu Glu Arg Asn Phe Tyr
65 70 75 80
His Ser Pro Gln Glu Phe Ala Ala Asp Val Arg Leu Thr Phe Asn Asn
85 90 95
Ala Leu Thr Tyr Asn Pro Lys Gly His Asp Val His His Met Ala Glu
100 105 110
Thr Leu Leu Val Gln Phe Asp Gln Met Phe Asp Pro
115 120

<210> 709
<211> 126
<212> PRT
<213> Eucalyptus grandis

<400> 709
Val Ser Leu Ser Arg Val Glu Lys His Ala Ser Ser Ala Met Asn Lys
1 5 10 15
Leu His Glu Ala Ala Met Lys Gly Asp Leu Ala Ala Leu Gln Asp Leu
20 25 30
Leu Leu Gln Asp Pro Gln Ile Leu His Lys Thr Thr Ser Ser Ser Ser
35 40 45
Asp Gly Thr Pro Leu His Val Ser Cys Leu Ser Gly His Ala Ser Phe
50 55 60
Thr Lys His Leu Leu Thr His Asn Pro Glu Leu Ala Lys Glu Ala Asp
65 70 75 80
Ser Arg Gly Ser Leu Pro Leu His Val Ala Cys Ala Lys Gly Asp Val
85 90 95
Glu Ile Val Arg Ala Leu Val Ala Val Asp Pro Ala Gly Cys Leu Arg
100 105 110
Tyr Asp Arg Glu Gly Arg Thr Pro Leu His Leu Ala Ala Ile
115 120 125

<210> 710
<211> 137
<212> PRT
<213> Eucalyptus grandis

<400> 710
Asp Asp Leu Asp Asn Glu Arg Ala Ser Ser Arg Gly Gly Gly Ser Asp
1 5 10 15
Glu Glu Asp Gly Asp Met Ser Arg Lys Lys Leu Arg Leu Ser Lys Asp
20 25 30
Gln Ser Ala Val Leu Glu Glu Ser Phe Lys Glu His Asn Thr Leu Asn
35 40 45
Pro Lys Gln Lys Leu Ala Leu Ala Lys Gln Leu Gly Leu Arg Pro Arg
50 55 60
Gln Val Glu Val Trp Phe Gln Asn Arg Arg Ala Arg Thr Lys Leu Lys
65 70 75 80
Gln Thr Glu Val Asp Cys Glu Tyr Leu Lys Arg Cys Cys Glu Ser Leu
85 90 95
Thr Glu Glu Asn Arg Arg Leu Gln Lys Glu Val Gln Glu Leu Arg Ala
100 105 110
Leu Lys Leu Ser Pro Gln Phe Tyr Met His Leu Phe Pro Ser Thr Thr
115 120 125

Leu Thr Met Cys Pro Phe Cys Glu Arg
130 135

<210> 711
<211> 104
<212> PRT
<213> Eucalyptus grandis

<400> 711
Ala Asp Tyr Asp Glu Gly Gly Asp Asp Asn Pro Gly Ser Arg His Pro
1 5 10 15
Val Thr Arg Gln Phe Phe Pro Val Glu Glu Glu Glu Glu Leu Glu Glu
20 25 30
Asp Gly Glu Arg Ala Gly Met Gly Gly Ala Ala Val Pro Pro Gly Phe
35 40 45
Pro Arg Ala His Trp Val Gly Val Arg Phe Arg Gln Ser Asp His His
50 55 60
Pro Ile Gly Ser Gly Lys Gly Ser Pro Ile Leu Glu Gly Ser Gln Pro
65 70 75 80
Met Lys Lys Ile Arg Lys Gly Pro Arg Ser Arg Ser Ser Gln Tyr Arg
85 90 95
Gly Val Thr Phe Tyr Arg Arg Thr
100

<210> 712
<211> 138
<212> PRT
<213> Eucalyptus grandis

<400> 712
Asp Asp Leu Asp Asn Glu Arg Ala Ser Ser Arg Gly Gly Gly Ser Asp
1 5 10 15
Glu Glu Asp Gly Asp Met Ser Arg Lys Lys Leu Arg Leu Ser Lys Asp
20 25 30
Gln Ser Ala Val Leu Glu Glu Ser Phe Lys Glu His Asn Thr Leu Asn
35 40 45
Pro Lys Gln Lys Leu Ala Leu Ala Lys Gln Leu Gly Leu Arg Pro Arg
50 55 60
Gln Val Glu Val Trp Phe Gln Asn Arg Arg Ala Arg Thr Lys Leu Lys
65 70 75 80
Gln Thr Glu Val Asp Cys Glu Tyr Leu Lys Arg Cys Cys Glu Ser Leu
85 90 95
Thr Glu Glu Asn Arg Arg Leu Gln Lys Glu Val Gln Glu Leu Arg Ala
100 105 110
Leu Lys Leu Ser Pro Gln Phe Tyr Met His Leu Ser Pro Pro Thr Thr
115 120 125
Leu Thr Met Cys Pro Ser Cys Glu Arg Val
130 135

<210> 713
<211> 128
<212> PRT
<213> Eucalyptus grandis

<400> 713
Glu Ser Gln Lys Leu Met Glu Ala Val Gln Asn Gly Asp Val Ser Ala
1 5 10 15

Ala Val Asp Leu Leu Asp Gln Asp Pro Leu Leu Leu Asp Arg Ile Ile
20 25 30
Val Leu Gly Val Ser Asp Thr Pro Leu His Ala Ala Ser Val Leu Gly
35 40 45
His Ala Asp Leu Val Arg Glu Leu Leu Arg Arg Ala Pro Arg Leu Ala
50 55 60
Ser Glu Gln Asp Ser Arg Gly Asn Ser Pro Leu His Leu Ala Ala Gly
65 70 75 80
Lys Gly His Gly Glu Ile Val Gly Glu Leu Leu Ser Ala Asp Pro Ala
85 90 95
Ala Ala Ser Ala Arg Asn Leu Asp Gly Arg Ala Pro Ile His Val Ala
100 105 110
Ala Ile Lys Gly Arg Val Asp Ala Val Gly Arg Met Val Gly Ala Val
115 120 125

<210> 714
<211> 93
<212> PRT
<213> Eucalyptus grandis

<400> 714
Tyr Ser Gly Tyr Leu Ser Ser Leu Lys Gln Glu Leu Ser Lys Lys Lys
1 5 10 15
Lys Lys Gly Lys Leu Pro Lys Glu Ala Arg Gln Lys Leu Leu Ser Trp
20 25 30
Trp Glu Leu His Tyr Lys Trp Pro Tyr Pro Ser Glu Thr Glu Lys Val
35 40 45
Ala Leu Ala Glu Ser Thr Gly Leu Asp Gln Lys Gln Ile Asn Asn Trp
50 55 60
Phe Ile Asn His Val Ile Glu Cys Trp Val Lys Ser Met Ala Thr Leu
65 70 75 80
Met Gln Glu Ile Phe Leu Met Thr Lys Val Ile Leu Arg
85 90

<210> 715
<211> 127
<212> PRT
<213> Eucalyptus grandis

<400> 715
Thr Phe Ser Phe Gly Ile Leu Lys Ala Gly Glu Gly Gly Asp Gly Val
1 5 10 15
Ala Asp Asp Glu Leu Gly Val Thr Arg Gln Leu Phe Pro Val Arg Glu
20 25 30
Val Asp Ala Asp Met Glu Trp Cys Gly Glu Ser Ser Ser Leu Asp Lys
35 40 45
Arg Ser Asp Val Phe Leu Val Gly Ala Cys Lys Glu Lys Glu Gly Pro
50 55 60
Arg Leu Ala Met Pro Gln Gln Arg Arg Lys Ser Arg Arg Gly Pro Arg
65 70 75 80
Ser Arg Ser Ser Gln Tyr Arg Gly Val Thr Phe Tyr Arg Arg Thr Gly
85 90 95
Arg Trp Glu Ser His Ile Trp Asp Cys Gly Lys Gln Val Tyr Leu Gly
100 105 110
Gly Phe Asp Thr Ala His Ala Ala Ala Arg Pro Met Ile Glu Leu
115 120 125

<210> 716
<211> 35
<212> PRT
<213> Eucalyptus grandis

<400> 716
Ser Glu Asp Met Gln Phe Met Val Met Asp Gly Leu His Pro Gln Gly
1 5 10 15
Ala Ala Leu Tyr Met Asp Gly His Tyr Ile Gly Asp Gly Pro Tyr Arg
20 25 30
Leu Gly Pro
35

<210> 717
<211> 179
<212> PRT
<213> Eucalyptus grandis

<400> 717
Ala Ala Phe Glu Gly Met Asp Ser Leu Pro Ser Pro Arg Lys Lys Lys
1 5 10 15
Asn Gln Leu Val Asn Arg Arg Arg Phe Ser Asp Glu Gln Ile Arg Ser
20 25 30
Leu Glu Ser Ile Phe Glu Ser Glu Ser Arg Leu Glu Pro Arg Lys Lys
35 40 45
Leu Gln Leu Ala Arg Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Ile
50 55 60
Trp Phe Gln Asn Lys Arg Ala Arg Trp Lys Ser Lys Gln Leu Glu Arg
65 70 75 80
Asp Phe Ala Ile Leu Arg Ala Asn Tyr Asn Ala Leu Tyr Ser Arg Phe
85 90 95
Glu Ser Leu Lys Lys Glu Lys Gln Ser Leu Val Thr Gln Ile Glu Lys
100 105 110
Leu Asn Gln Leu Val Glu Lys Pro Gln Gly Glu Gly Gln Ser Cys Gly
115 120 125
His Asp Leu Ala Thr Asn Ser Thr Asp Arg Glu Ser Asp Asn Gly Val
130 135 140
Pro Lys Tyr Glu Asp Ser Gln Pro Val Phe Pro Asp Lys Leu Thr Arg
145 150 155 160
Leu Met Gly Ile Pro Cys Glu Asp Asp Tyr Phe Gly Leu Lys Arg Ala
165 170 175
Glu Pro Pro

<210> 718
<211> 142
<212> PRT
<213> Eucalyptus grandis

<400> 718
Asn Leu Thr Asp Lys Leu Leu His Lys Gly Asn Glu Lys Glu Ser Ser
1 5 10 15
Glu Ser Ser Ser Lys Ser Ser Gln Gly Leu Phe Gln Asn Pro Ile Ala
20 25 30
Asp Ser Val Ser Glu Asp Glu Val Ser Arg Val Pro Ile Pro Thr Trp
35 40 45
Pro Glu Asp Ile Cys Ser Val Lys Ser Asp Met Phe Asp Ser Glu Ser

50 55 60
Pro His Tyr Thr Asp Ala Ala His Ser Ser Leu Leu Glu Pro Gly Asp
65 70 75 80
Ser Ser Tyr Ala Phe Glu Pro Asp His Ser Asp Leu Ser Gln Asp Glu
85 90 95
Glu Asp Asn Leu Ser Lys Ser Leu Leu Ser Thr Arg Asn Tyr Pro Lys
100 105 110
Leu Glu Asn Ser Asp Tyr Ala Ile Leu Pro Pro Asn Ser Cys Asn Phe
115 120 125
Gly Phe His Ala Glu Asp Pro Ala Phe Trp Pro Trp Ser Tyr
130 135 140

<210> 719
<211> 207
<212> PRT
<213> Eucalyptus grandis

<400> 719
Glu Lys Arg Thr Pro Lys Lys Arg Gly Arg Lys Pro Gly Leu Gly Arg
1 5 10 15
Asp Thr Pro Leu Asn His Val Glu Ala Glu Arg Gln Arg Arg Glu Lys
20 25 30
Leu Asn His Arg Phe Tyr Ala Leu Arg Ala Val Val Pro Asn Val Ser
35 40 45
Arg Met Asp Lys Ala Ser Leu Leu Ser Asp Ala Val Ser Tyr Ile Asn
50 55 60
Glu Leu Lys Ser Lys Ile Gly Asp Leu Glu Ser Gln Leu Gln Arg Glu
65 70 75 80
Ser Lys Arg Val Lys Gln Glu Val Thr Asp Ala Thr Asp Asn Leu Ser
85 90 95
Thr Thr Thr Ser Val Asp His Ser Ser Pro Ser Gly Cys Gly Gly Ser
100 105 110
Leu Leu Glu Val Glu Val Lys Ile Val Gly Cys Asp Ala Met Ile Arg
115 120 125
Val Gln Ser Glu Asn Ala Asn Tyr Pro Ser Ala Arg Leu Met Ala Ala
130 135 140
Met Arg Asp Leu Glu Leu His Ile His His Ala Ser Leu Ser Thr Val
145 150 155 160
Asn Asp Leu Met Leu Gln Asp Val Val Val Ser Val Pro Glu Gly Leu
165 170 175
Lys Gly Glu Glu Asp Leu Arg Ala Ala Leu Leu Arg Ala Leu Glu Gln
180 185 190
Arg Ser Glu Lys Leu Pro Gly Glu Arg Glu Arg Glu Tyr Val Leu
195 200 205

<210> 720
<211> 128
<212> PRT
<213> Eucalyptus grandis

<400> 720
Glu Asp Asp Lys Leu Gly Arg Asn Arg Ala Ser Ala Asn Val Val Gln
1 5 10 15
Ser Ser Ser Val Lys Gly Arg Pro Ser Gly Gly Thr Leu Val Val Cys
20 25 30
Pro Thr Ser Val Leu Arg Gln Trp Gly Asp Glu Leu Lys Asn Lys Val
35 40 45

Ser Glu Lys Ala Lys Leu Ser Val Cys Met Tyr His Gly Thr Thr Arg
50 55 60
Thr Lys Asp Pro Tyr Glu Leu Ala Asn Tyr Asp Val Val Leu Thr Thr
65 70 75 80
Tyr Ser Ile Val Ser Met Glu Val Pro Lys Pro Ala Gly Phe Lys Asp
85 90 95
Glu Lys Asp Ser Leu Gln Asp Asp Asp Asp Ala Phe Phe Gly Arg Lys
100 105 110
Arg Lys His Ser Ala Lys Ser Glu Lys Arg Arg Leu Lys Lys Glu Met
115 120 125

<210> 721
<211> 114
<212> PRT
<213> Eucalyptus grandis

<400> 721
Phe Arg Leu Phe Ile Asn Trp Leu Leu Asp Phe Asn Ser Ala Asp Ser
1 5 10 15
Ala Ile Asp Ser Ala His Phe Gln Ile Leu Thr Ala Phe Ala Asn Ala
20 25 30
Phe His Ala Leu Gln Pro Leu Lys Val Pro Ala Phe Ser Phe Ala Trp
35 40 45
Leu Glu Leu Val Ser His Arg Ser Phe Met Pro Lys Ile Leu Ser Gly
50 55 60
Asn Ser Gln Lys Gly Trp Pro Tyr Phe Gln Arg Leu Leu Val Asp Leu
65 70 75 80
Phe Gln Tyr Met Glu Pro Phe Leu Arg Asn Ala Glu Leu Gly Leu Pro
85 90 95
Val His Phe Leu Tyr Lys Gly Thr Leu Arg Val Leu Leu Val Leu Leu
100 105 110
His Asp

<210> 722
<211> 183
<212> PRT
<213> Eucalyptus grandis

<400> 722
Met Asn Arg Glu Arg Leu Met Lys Met Ala Gly Ser Val Arg Thr Gly
1 5 10 15
Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Ala Val His Lys Thr Thr
20 25 30
Thr Thr Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
35 40 45
Asn Ala Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp Val
50 55 60
Val Ile Gln Phe Leu Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
65 70 75 80
Thr Trp Val Val Ser Gly Ser Pro Gln Thr Lys Lys Leu Gln Asp Ile
85 90 95
Leu Pro Gly Ile Ile Asn Gln Leu Gly Pro Asp Asn Leu Asp Asn Leu
100 105 110
Arg Lys Leu Ala Glu Gln Phe Gln Lys Gln Val Pro Gly Ala Ala Thr
115 120 125
Gly Ser Gly Ala Thr Gly Met Gln Asp Asp Asp Asp Asp Glu Val Pro

130 135 140
Glu Leu Val Pro Gly Glu Thr Phe Glu Ala Ala Ala Glu Glu Gly Gln
145 150 155 160
Ala Thr Gln Val Thr Glu Ala Thr Gln Val Thr Glu Ala Thr Lys Val
165 170 175
Thr Glu Ala Thr Pro Ala Ser
180

<210> 723
<211> 54
<212> PRT
<213> Eucalyptus grandis

<400> 723
Gly Ser Cys Gln Lys Gly Asp Ser Cys Glu Tyr Ala His Gly Val Phe
1 5 10 15
Glu Ser Trp Leu His Pro Ala Gln Tyr Arg Thr Arg Leu Cys Lys Asp
20 25 30
Glu Thr Gly Cys Ala Arg Lys Val Cys Phe Phe Ala His Lys Pro Glu
35 40 45
Glu Leu Arg Pro Val Tyr
50

<210> 724
<211> 124
<212> PRT
<213> Eucalyptus grandis

<400> 724
Met Ala Ser Ser Ser Gly Thr Ser Ser Gly Ser Thr Leu Ile Gln Asn
1 5 10 15
Ser Gly Ser Glu Glu Ser Leu Gln Ala Leu Met Asp Gln Arg Lys Arg
20 25 30
Lys Arg Met Ile Ser Asn Arg Glu Ser Ala Arg Arg Ser Arg Met Arg
35 40 45
Lys Gln Arg His Leu Asp Asp Leu Met Leu Val Val Ala Gln Leu Arg
50 55 60
Lys Asp Asn Gln Gln Leu Arg Asp Asn Val Asn Val Val Asn Gln His
65 70 75 80
Tyr Met Thr Leu Glu Thr Glu Asn Ser Ile Leu Arg Val Gln Met Asn
85 90 95
Glu Leu Thr Asn Arg Leu Glu Ser Leu Lys Asp Ile Leu Gly Ile Leu
100 105 110
Asp Ala Gly Asp Gly Gly Arg Pro Gly Asn Gly Gly
115 120

<210> 725
<211> 120
<212> PRT
<213> Eucalyptus grandis

<400> 725
Met Thr Asp Gly His Leu Phe Asn Asn Ile Ser Leu Gly Gly Arg Gly
1 5 10 15
Gly Ser Asn Pro Gly Gln Ile Lys Ile Phe Ser Gly Gly Ile Ser Trp
20 25 30
Arg Arg Gln Gly Gly Gly Lys Ala Val Glu Val Asp Lys Ser Asp Ile

35 40 45
Val Gly Val Thr Trp Met Lys Val Pro Arg Thr Asn Gln Leu Gly Val
50 55 60
Arg Thr Lys Asp Gly Leu His Tyr Lys Phe Thr Gly Phe Arg Asp Pro
65 70 75 80
Asp Val Ile Ser Leu Thr Asn Phe Phe Gln Asn Thr Cys Gly Leu Thr
85 90 95
Pro Glu Glu Lys Gln Leu Ser Val Ser Gly Arg Asn Trp Gly Glu Val
100 105 110
Asp Leu Ser Gly Asn Met Leu Thr
115 120

<210> 726
<211> 58
<212> PRT
<213> Eucalyptus grandis

<400> 726
Arg Leu Gly Pro Met Gly Pro Lys Thr Leu Cys Asn Ala Cys Gly Ile
1 5 10 15
Arg Tyr Lys Thr Gly Arg Leu Phe Pro Glu Tyr Arg Pro Ser Ala Ser
20 25 30
Pro Thr Tyr Val Pro Ser Leu Asn Ile Val Ser Asn Glu Ile Pro Ser
35 40 45
Ser His Leu Trp Leu Ser Leu Leu Gln Lys
50 55

<210> 727
<211> 78
<212> PRT
<213> Eucalyptus grandis

<400> 727
Gly Val Ala Ile Asp Val Lys Ile Met Gly Trp Asp Glu Val Val Arg
1 5 10 15
Val Glu Ser Gly Arg Lys Asp His Pro Ala Ala Arg Leu Met Val Ala
20 25 30
Leu Gln Glu Leu Asn Leu Glu Leu Gln His Ala Ser Val Ser Val Val
35 40 45
Asn Glu Leu Met Ile Gln Gln Ala Thr Val Lys Met Gly Ser Gln Leu
50 55 60
Tyr Thr Gln Glu Gln Leu Lys Ala Ala Leu Leu Ala Val Ile
65 70 75

<210> 728
<211> 123
<212> PRT
<213> Eucalyptus grandis

<400> 728
Lys Pro Pro Met Lys Lys Gln Lys Ser Lys Pro Ala Ala Ala Ser Glu
1 5 10 15
Thr Ala Gly Pro Ala Arg Arg Cys Ser His Cys Gly Val Gln Lys Thr
20 25 30
Pro Gln Trp Arg Ala Gly Pro Asn Gly Ala Lys Thr Leu Cys Asn Ala
35 40 45
Cys Gly Val Arg Phe Lys Ser Gly Arg Leu Tyr Pro Glu Tyr Arg Pro

50 55 60
Ala Cys Ser Pro Thr Phe Ser Ser Glu Leu His Ser Asn His His Arg
65 70 75 80
Lys Val Leu Glu Met Arg Arg Lys Lys Glu Ser Met Thr Thr Thr Ala
85 90 95
Leu Gly Gln Pro Glu Pro Gly Arg Ala Arg Ala Gln Leu Leu Arg Ala
100 105 110
Arg Val Gly Ser Ser Trp Arg Pro Arg Glu Ile
115 120

<210> 729
<211> 213
<212> PRT
<213> Eucalyptus grandis

<400> 729
Ala Ala Gly Leu Leu Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile
1 5 10 15
Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Asn Phe Thr Glu Glu Glu
20 25 30
Asp Glu Ile Ile Ile Lys Leu His Ser Leu Leu Gly Asn Lys Trp Ser
35 40 45
Leu Ile Ala Gly Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn
50 55 60
Tyr Trp Asn Thr His Ile Arg Arg Lys Leu Leu Asn Arg Gly Ile Asp
65 70 75 80
Pro Ala Thr His Arg Leu Ile Asn Glu Pro Ala Gln Asp His His Asp
85 90 95
Glu Pro Thr Ile Ser Phe Ala Ala Asn Ser Lys Glu Ile Lys Glu Met
100 105 110
Lys Asn Asn Ala Glu Leu Asn Phe Met Cys Asn Leu Glu Glu Ser Ala
115 120 125
Asp Val Ala Ser Ser Ala Arg Glu Arg Cys Pro Asp Leu Asn Leu Glu
130 135 140
Leu Gly Ile Ser Pro Pro Ser His Gln Leu His Gln Pro Glu Pro Leu
145 150 155 160
Leu Arg Phe Thr Gly Arg Lys Ser Asp Leu Cys Leu Glu Cys Asn Leu
165 170 175
Gly Leu Lys Asn Ser Gln Asn Cys Arg Cys Ser Val Gly Val Ile Glu
180 185 190
Ser Glu Thr Ser Val Gly Tyr Asp Phe Leu Gly Leu Lys Ala Ser Val
195 200 205
Leu Asp Tyr Arg Ser
210

<210> 730
<211> 61
<212> PRT
<213> Eucalyptus grandis

<400> 730
Met Ser Val Leu Ser Lys Ser Asp Ser Val Glu Ile Arg Glu Val Trp
1 5 10 15
Glu Tyr Asn Leu Glu Asp Glu Phe Ser Phe Ile Arg Glu Ile Val Asp
20 25 30
Asp Tyr Pro Tyr Ile Ala Met Asp Thr Glu Phe Pro Gly Met Val Leu
35 40 45

Arg Pro Val Gly Asn Phe Lys Ser Ser Ser Glu Ser His
50 55 60

<210> 731
<211> 94
<212> PRT
<213> Eucalyptus grandis

<400> 731
Met Arg Arg Lys Lys Lys Ala Val His Lys Thr Thr Thr Thr Asp Asp
1 5 10 15
Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val Asn Ala Ile Pro
20 25 30
Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp Val Val Ile Gln Phe
35 40 45
Leu Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn Thr Trp Val Val
50 55 60
Ser Gly Ser Pro Gln Thr Lys Lys Leu Gln Asp Ile Leu Pro Gly Ile
65 70 75 80
Ile Asn Gln Leu Gly Pro Asp Asn Leu Asp Asn Leu Gly Ser
85 90

<210> 732
<211> 103
<212> PRT
<213> Eucalyptus grandis

<400> 732
Tyr Trp Glu Thr Leu Met Phe Phe Gln Ser Glu Glu Leu Leu His Asn
1 5 10 15
Ser Cys Val Ser Glu Val Ile Ser Arg Phe Asn Gly Pro Ser Ser Pro
20 25 30
Asp Ala Ala Ala Leu Pro Val Ala Ser Lys Ser Ile Asp Leu Glu Arg
35 40 45
Asn Arg Arg Lys Lys Leu Asn Glu Arg Leu Phe Ala Leu Arg Ala Leu
50 55 60
Val Pro Lys Ile Ser Lys Met Asp Lys Ala Ser Ile Val Lys Asp Ala
65 70 75 80
Ile Asp Tyr Ile Gln Asp Leu Arg Glu Gln Glu Gly Arg Ser Glu Pro
85 90 95
Arg Ser Gln Ser Ser Asn Leu
100

<210> 733
<211> 78
<212> PRT
<213> Eucalyptus grandis

<400> 733
Gly Val Ala Ile Asp Val Lys Ile Met Gly Trp Asp Ala Val Val Arg
1 5 10 15
Val Glu Ser Gly Arg Lys Asp His Pro Ala Ala Arg Leu Met Val Ala
20 25 30
Leu Gln Glu Leu Asn Leu Glu Leu Gln His Ala Ser Val Ser Val Val
35 40 45
Asn Glu Leu Met Ile Gln Gln Ala Thr Val Lys Met Gly Ser Gln Leu
50 55 60

Tyr Thr Gln Glu Gln Leu Lys Ala Ala Leu Leu Ala Val Ile
65   70   75

<210> 734
<211> 122
<212> PRT
<213> Eucalyptus grandis

<400> 734
Gly Ile Tyr Ser Cys Leu Asn Leu Asp Ala Ser Asn Gly Gly Ser Ser
1   5   10   15
Ala Ile Asp Pro Ser Ile Ser Ser Ala Ile Leu Asp Asp Phe Cys Thr
            20   25   30
Ile Lys Asp Gly Pro Phe Pro Asn Leu Ser Asp Cys Leu Val Gly Asn
        35   40   45
Phe Ser Ser Ser Gln Asp Val Gln Ser Gln Ile Thr Ser Ala Ser Leu
    50   55   60
Ala Asp Ser Gln Ala Phe Ser Arg Gln Asp Phe Pro Asp Asn Ser Gly
65   70   75   80
Gly Thr Ser Ser Ser Asn Val Asp Phe Asp Glu Ser Ser Ile Leu Lys
                85   90   95
Asn Ser Thr Trp Gln Gln Gln Val Ala Pro Pro Met Arg Thr Tyr Thr
            100   105   110
Lys Val Gln Lys Ala Gly Ser Val Gly Arg
        115   120

<210> 735
<211> 133
<212> PRT
<213> Eucalyptus grandis

<400> 735
Met Gly Ser Ser Ala Ser Ser Gln Arg Pro Asp Asn Leu Gln Asp Lys
1   5   10   15
Val Gly Pro Val Ser Val Ser Asp Glu Glu Trp Lys Lys Arg Leu Thr
            20   25   30
Pro Glu Gln Tyr Tyr Val Ala Arg Gln Lys Gly Thr Glu Arg Ala Phe
        35   40   45
Thr Gly Glu Tyr Trp Asn Thr Lys Thr Pro Gly Thr Tyr His Cys Val
    50   55   60
Cys Cys Asp Thr Pro Leu Phe Glu Ser Asn Thr Lys Phe Asp Ser Gly
65   70   75   80
Thr Gly Trp Pro Ser Tyr Tyr Gln Pro Ile Gly Asn Asn Val Lys Ser
                85   90   95
Lys Leu Asp Leu Ser Ile Ile Phe Met Pro Arg Gln Glu Val Leu Cys
            100   105   110
Ala Ala Cys Asp Ala His Leu Gly His Ile Phe Asp Asp Gly Pro Pro
        115   120   125
Pro Thr Gly Lys Arg
    130

<210> 736
<211> 163
<212> PRT
<213> Eucalyptus grandis

<400> 736

Met Val Asp Lys Cys Gly Glu Gly Leu Leu Val Ala Val Glu Ala Gln
1   5   10   15
Lys Ala Val Pro Ala Pro Phe Leu Thr Lys Thr Tyr Gln Leu Val Asp
            20   25   30
Asp Pro Ser Thr Asp His Ile Val Ser Trp Gly Asp Asp Asp Ser Thr
        35   40   45
Phe Val Val Trp Arg Pro Pro Glu Phe Ala Arg Asp Leu Leu Pro Asn
    50   55   60
Tyr Phe Lys His Asn Asn Phe Ser Ser Phe Val Arg Gln Leu Asn Thr
65   70   75   80
Tyr Gly Phe Arg Lys Ile Val Pro Asp Arg Trp Glu Phe Ala Asn Glu
                85   90   95
Phe Phe Arg Lys Gly Glu Lys His Leu Leu Cys Glu Ile His Arg Arg
            100   105   110
Lys Thr Ala Gln Pro Gln Leu Thr His His His Pro His Ser Ala Ser
        115   120   125
Pro Leu Ser Gly Pro Thr Pro Ala Phe Phe Pro Phe Pro Ser Arg Leu
    130   135   140
Ser Ile Ser Pro Ser Asp Ser Asp Asp Gln His Ser Ser His Trp Cys
145   150   155   160
Asp Ser Pro

<210> 737
<211> 172
<212> PRT
<213> Eucalyptus grandis

<400> 737
Met Ala Leu Glu Ala Leu Ser Ser Pro Thr Ala Pro Ser Ala Pro Phe
1   5   10   15
Gln Phe Met Lys Asp Ser Ser Pro Ala Ala Ala Ala Ala Ala Ala Ser
            20   25   30
Ser Ser Ser Ser Ala Tyr Asp Leu Pro Leu Ala Glu Pro Trp Ala Lys
        35   40   45
Arg Lys Arg Ser Lys Arg Pro His Asn Pro Pro Ser Glu Asp Glu Tyr
    50   55   60
Leu Ala Leu Cys Leu Ile Met Leu Ala Arg Gly Gly Ala Gly Arg Thr
65   70   75   80
Leu Pro Pro Pro Pro Pro Pro Ala Val Ser Ser Glu Ala Ala Lys Val
                85   90   95
Ala Tyr Arg Cys Pro Val Cys Asp Lys Gly Phe Pro Ser Tyr Gln Ala
            100   105   110
Leu Gly Gly His Lys Ala Ser His Arg Lys His Ala Ser Ser Ala Ala
        115   120   125
Ala Ala Ala Gly Gly Asp Asp Gln Pro Thr Thr Ser Ser Thr Ser Ala
    130   135   140
Ala Thr Thr Ser Ser Gly Val Ser Gly Lys Val His Glu Cys Ser Ile
145   150   155   160
Cys His Lys Ser Phe Pro Thr Gly Gln Ala Leu Gly
                165   170

<210> 738
<211> 78
<212> PRT
<213> Eucalyptus grandis

<400> 738

Ile Ser Ser Ser Arg Trp Pro Arg Gln Glu Thr Leu Thr Leu Leu Glu
1   5   10   15
Ile Arg Ser Arg Leu Asp Pro Lys Phe Lys Glu Ala Asn Gln Lys Gly
            20   25   30
Pro Leu Trp Asp Glu Val Ser Arg Ile Met Ser Glu Glu His Gly Tyr
        35   40   45
Asn Arg Ser Gly Lys Lys Cys Arg Glu Lys Phe Glu Asn Leu Tyr Lys
    50   55   60
Tyr Tyr Lys Thr Thr Lys Glu Gly Lys Ala Gly Arg Gln Asp
65   70   75

<210> 739
<211> 135
<212> PRT
<213> Eucalyptus grandis

<400> 739

Met Gly Pro Gln Met Asn Phe Arg Asn Leu Ala Asp Val Pro Ala Ala
1   5   10   15
Glu Arg Ser Thr Gly Gly Gln Pro Gly Ile Pro Leu Leu Ser Arg Gln
            20   25   30
Ser Ser Val Tyr Ser Leu Thr Phe Asn Glu Phe Gln Asn Thr Trp Ser
        35   40   45
Gly Leu Ser Lys Asp Ile Gly Ser Ile Asn Met Asp Glu Phe Leu Lys
    50   55   60
Asn Ile Trp Thr Ala Glu Glu Ser Gln Leu Gln Leu Gln Asp Met Ala
65   70   75   80
Pro Ser Gly Asn Gly Gly Glu Gly Gly Gly Gln Val Gly Asn Leu Leu
                85   90   95
Arg Gln Gly Ser Leu Thr Leu Ser Arg Thr Ile Ser Gln Lys Thr Val
            100   105   110
Asp Glu Val Trp Arg Glu Leu Phe Lys Glu Thr Glu Asp Val Lys Glu
        115   120   125
Gly Ser Arg Glu Gly Gly Asp
    130   135

<210> 740
<211> 49
<212> PRT
<213> Eucalyptus grandis

<400> 740

Asp Phe Glu Arg Asn Arg Ala Glu Gly Val Asp Ser Ala Arg Phe Ala
1   5   10   15
Glu Leu Met Ile Ser Ser Gly Leu Leu Cys Asn Asp Ala Val Ile Trp
            20   25   30
Val Thr Phe His Ser Ala Tyr Asp Phe Gly Tyr Leu Val Lys Ile Leu
        35   40   45
Thr

<210> 741
<211> 101
<212> PRT
<213> Eucalyptus grandis

<400> 741
Met Asn Phe Ser Asp Lys Glu Val Gln Leu Ala Ser Asp His Pro Lys
1   5   10   15
Lys Pro Ala Gly Arg Lys Lys Phe Arg Glu Thr Arg His Pro Val Tyr
            20   25   30
Arg Gly Val Arg Leu Arg Asp Ser Gly Lys Trp Val Cys Glu Val Arg
        35   40   45
Glu Pro Lys Lys Lys Ser Arg Ile Trp Leu Gly Thr Phe Pro Thr Val
    50   55   60
Glu Met Ala Ala Arg Ala His Asp Val Ala Ala Leu Ala Leu Arg Gly
65   70   75   80
Gln Ser Ala Cys Leu Asn Phe Ala Asp Ser Ala Trp Arg Leu Pro Lys
                85   90   95
Pro Ala Ser Thr Asp
            100

<210> 742
<211> 113
<212> PRT
<213> Eucalyptus grandis

<400> 742
Gly Met Asp Ser Arg Thr Ser Ser Arg Ile Ser Gly Val Thr Leu Gln
1   5   10   15
Glu Val Pro Pro Thr Ser Ser Gln Val Pro Glu Ile Pro Pro Ala Leu
            20   25   30
Gly Ala Ser Ala Asn Asp Pro Ser Ser Ala Val Ser Glu Leu Lys Ala
        35   40   45
Pro Ser Gln Gly Thr Ala Lys Val Thr Thr Asn Gln Phe Pro Asp Met
    50   55   60
Gly Met Leu Ala Gly Ala Gln Glu Ser Glu Ala Val Ser Val Asn Gln
65   70   75   80
Ala Asp Thr Val Met Thr Gly Ile Ser Gln Thr Gln Asp Met Val Leu
                85   90   95
Glu Asp Ile Ala Asn Ile Ser Arg Asp Asp Tyr Met Gly Ala Asp Leu
            100   105   110
His

<210> 743
<211> 200
<212> PRT
<213> Eucalyptus grandis

<400> 743
Lys Ala Tyr Ala Arg Arg Gln His Ala Trp Leu Thr Gly Ala Asn Glu
1   5   10   15
Val Asp Ser Lys Thr Phe Ser Arg Ala Ile Leu Ala Lys Ser Ala Arg
            20   25   30
Ile Gln Thr Val Val Cys Ile Pro Leu Leu Asp Gly Val Val Glu Phe
        35   40   45
Gly Thr Thr Glu Arg Val Gln Glu Asp Ile Ser Leu Val Asn His Val
    50   55   60
Lys Thr Phe Phe Val Asp His His Pro Pro His Pro Pro Lys Pro Ala
65   70   75   80
Leu Ser Glu His Ser Thr Ser Asn Pro Ala Ala Thr Ser Ser Gly His
                85   90   95

His Arg Phe His Ser Pro Pro Val Pro Ser Tyr Ala Pro Ala Asp Pro
100 105 110
Pro Ala Ala Ala Asn Gln Gly Asp Glu Glu Glu Glu Asp Asp Asp Asp
115 120 125
Asp Glu Glu Glu Gly Glu Ser Asp Ser Glu Ala Glu Thr Gly Arg Gln
130 135 140
Gly Ala Ala Ala Ala Ala Gln Asn Pro His Gly Ala Gly Pro Ala Asn
145 150 155 160
Asn Ala Glu Pro Ser Glu Phe Glu Met Ser Glu Asp Ile Arg Leu Gly
165 170 175
Ser Pro Asp Asp Gly Ser Asn Asn Leu Asp Ser Asp Phe Pro Met Leu
180 185 190
Thr Ile Asn Ser Thr Ala Ala Asp
195 200

<210> 744
<211> 327
<212> PRT
<213> Eucalyptus grandis

<400> 744
Asp Gly Ser Cys Arg Glu Pro Lys Asp Gly Glu Glu Ser Glu Ala Thr
1 5 10 15
Arg Ile Leu Asn Leu Arg Leu Glu Asp Glu Gly Gln Gln Arg Met Arg
20 25 30
Lys Arg Val Leu Asp Lys Leu His Thr Val Phe Gly Gly Ser Asp Glu
35 40 45
Asp Asn Tyr Ala Leu Gly Leu Asp Arg Val Thr Asp Met Glu Met Phe
50 55 60
Phe Leu Ala Ser Met Tyr Phe Leu Phe Pro Ser Gly Glu Gly Gly Pro
65 70 75 80
Gly Lys Cys Phe Ala Ser Glu Lys His Val Trp Leu Thr Asp Ala Leu
85 90 95
Lys Ser Ser Ser Asp Tyr Cys Val Arg Ser Phe Leu Ala Lys Ser Ala
100 105 110
Gly Ile Arg Thr Ile Val Leu Val Pro Thr Asp Val Gly Val Val Glu
115 120 125
Leu Gly Ser Val Arg Ser Val Pro Glu Ser Ser Glu Leu Val Gln Thr
130 135 140
Ile Arg Leu Ser Phe Ser Thr Asn Ser Phe Met Ser Val Lys Pro Ile
145 150 155 160
Ala Ala Leu Pro Met Thr Asn Glu Lys Lys Asp Glu Asn Ala Pro Phe
165 170 175
Ser Asn Leu Ala Leu Ala Gly Lys Gly Glu Ala Ile Ser Lys Ile Phe
180 185 190
Gly Lys Glu Leu Thr Thr Val Asn Ser Pro Gly His Tyr Arg Glu Lys
195 200 205
Leu Ala Val Arg Lys Met Asp Ser Arg Gln Ser Trp Glu Pro His His
210 215 220
Asn Gly Ser Lys Leu Pro Phe Ser Thr Pro Arg Asn Gly Thr Gln Asp
225 230 235 240
Thr Ser Trp Ala His His Ala His Gly Val Lys Gln Leu Ser Pro Val
245 250 255
Glu Phe Tyr Gly Ser Gln Thr Ser Ala Ser Lys Leu Glu Glu Arg Met
260 265 270
Asn Ser Gly Arg Asn Asp Phe Gly Leu Asn Arg Tyr Pro Thr Pro Lys
275 280 285

Gln Val Gln Met Gln Ile Asp Phe Thr Gly Ala Thr Ser Arg Pro Ser
290 295 300
Val Ile Thr Arg Pro Phe Thr Ala Asp Ser Glu His Ser Asp Val Glu
305 310 315 320
Ala Ser Cys Lys Glu Glu Gln
325

<210> 745
<211> 361
<212> PRT
<213> Eucalyptus grandis

<400> 745
Met Met Met Met Thr Met Ala Ala Gly Gly Gly Asp His His Ala Arg
1 5 10 15
Ser Thr Pro Thr Val Gln Ile Pro Pro Val Trp Asp Pro Leu Asp Asp
20 25 30
Pro Ala Thr Gly Gly Cys Gly Gly Pro Tyr Ser Pro Tyr Ser Pro Tyr
35 40 45
Ser Pro Tyr Ser Gly Gly Gly Asn Ala Gly Gly Ala Ala Gly Gly Gly
50 55 60
Glu Cys Cys Asn Asp Leu Thr Ala Leu Arg Arg Phe Leu Pro Ser Asn
65 70 75 80
His His Gln Asp Glu Glu Asp Glu Glu Asp Gly Arg Ala Pro Gly Glu
85 90 95
Asp Gly Val Leu Gly Cys Asp Glu Phe Arg Met Tyr Glu Phe Lys Val
100 105 110
Arg Lys Cys Ala Arg Gly Arg Ser His Asp Trp Thr Glu Cys Pro Tyr
115 120 125
Ala His Pro Gly Glu Lys Ala Arg Arg Arg Asp Pro Arg Arg Phe Phe
130 135 140
Tyr Ser Gly Thr Ala Cys Pro Asp Phe Arg Lys Gly Ala Cys Lys Lys
145 150 155 160
Gly Asp Thr Cys Glu Phe Ala His Gly Val Phe Glu Cys Trp Leu His
165 170 175
Pro Glu Arg Tyr Arg Thr Gln Ala Cys Lys Asp Gly Gln Ser Cys Arg
180 185 190
Arg Arg Val Cys Phe Phe Ala His Ser Pro Asp Gln Leu Arg Val Leu
195 200 205
Pro Ala His Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln His Ser
210 215 220
Pro Lys Ser Ala Thr Asp Ser Glu Phe Gly Ser Pro Val Arg Pro Ser
225 230 235 240
Ala Ala Ala Ala Ala Ala Phe Asp Ser Tyr Phe Thr Lys Pro Trp Ser
245 250 255
Ala Ser Phe Ile Ser Ser Pro Thr Ser Ile Leu Thr Thr Ser Ser Pro
260 265 270
Pro Ile Ser Pro Pro Thr Asn Ser Pro Pro Met Ser Pro Asn Gln Arg
275 280 285
Gly Gly Cys Cys Gly Ser Pro Gly Ser Val Ser Glu Leu Val Ala Cys
290 295 300
Met Arg Asn Met Gln Ile Ala Lys Met Lys Met Ser Pro Arg Gly Gln
305 310 315 320
Met Gly Gly Ser Leu Phe Gly Ser Pro Leu Arg Pro Gly Cys His Leu
325 330 335
Ala Ala Pro Val Thr Pro Arg Ala Glu Ser Ser Pro Arg Tyr Gly Gln
340 345 350

Leu Gly Gly Gly Gly Gly Gly Gly Leu
355 360

<210> 746
<211> 78
<212> PRT
<213> Eucalyptus grandis

<400> 746
Leu Ile Arg Trp Arg Lys His Arg Arg Val Arg Trp Ala Val Gly Ala
1 5 10 15
Thr Arg Ala Ala Ala Ser Arg Ala Arg Ser Ser Gly Gly Val Arg Glu
20 25 30
Gln Asp Arg Tyr Leu Pro Ile Ala Asn Ile Ser Arg Ile Met Lys Lys
35 40 45
Ala Leu Pro Ala Asn Gly Lys Ile Ala Lys Asp Ala Lys Asp Thr Val
50 55 60
Gln Glu Cys Val Ser Glu Phe Ile Ser Phe Ile Thr Ser Glu
65 70 75

<210> 747
<211> 278
<212> PRT
<213> Eucalyptus grandis

<400> 747
Met Ala Thr Pro Asp Glu Arg Pro Ser Ser Ser Ser Ser Ala Ala Ser
1 5 10 15
Ala Val Ala Ile Arg Gln Val Trp Ala Trp Asn Leu Asp Ala Glu Phe
20 25 30
Gly Leu Ile Arg Asp Leu Ile Asp Arg Tyr Pro Phe Val Ser Met Asp
35 40 45
Thr Glu Phe Pro Gly Leu Val Phe Arg Arg Pro Ala Gly Ala Gly Ala
50 55 60
Gly Ala Arg Pro Ser Pro Ser Asp His Tyr Arg Leu Leu Lys Ser Asn
65 70 75 80
Val Asp Ala Leu Ser Leu Ile Gln Val Gly Leu Thr Leu Ser Asp Ala
85 90 95
Arg Gly Gly Leu Pro Gly Phe Ile Trp Glu Phe Asn Phe Arg Glu Phe
100 105 110
Asp Ala Ala Arg Asp Pro His Ala Pro Asp Ser Ile Glu Leu Leu Arg
115 120 125
Arg Gln Gly Val Asp Phe Asp Arg Asn Arg Ala Glu Gly Ile Asp Ser
130 135 140
Ala Arg Phe Ala Glu Leu Val Met Ser Ser Gly Leu Val Cys Asn Asp
145 150 155 160
Ala Val Ser Trp Val Thr Phe His Ser Ala Tyr Asp Phe Gly Tyr Leu
165 170 175
Val Lys Ala Leu Thr Arg Arg Glu Leu Pro Gly Asp Leu Pro Glu Phe
180 185 190
Leu Ala Val Val Arg Val Phe Phe Gly Asp Arg Val Tyr Asp Val Lys
195 200 205
His Leu Met Arg Phe Cys His Ser Leu His Gly Gly Leu Asp Arg Val
210 215 220
Ala Ala Ala Leu Glu Leu Asp Arg Ala Val Gly Lys Cys His Gln Ala
225 230 235 240
Gly Ser Asp Ser Leu Leu Thr Trp Gln Ala Phe Arg Lys Ile Arg Asp

245 250 255
Val Tyr Phe Ala Asn Asp Asp Gly Pro Glu Lys His Ala Gly Val Leu
260 265 270
Tyr Gly Leu Glu Val Tyr
275

<210> 748
<211> 31
<212> PRT
<213> Eucalyptus grandis

<400> 748
Met Ala Thr Gly Val Glu Gly Asn Glu Gly Val Pro Ala Asn Leu Arg
1 5 10 15
Lys Gln Leu Ala Val Ala Val Arg Ser Ile Gln Trp Ser Tyr Ala
20 25 30

<210> 749
<211> 229
<212> PRT
<213> Eucalyptus grandis

<400> 749
Met Asn His Phe Phe Ser Ser Tyr Ser Asp Pro Ser Ser Cys Ser Leu
1 5 10 15
Asp Phe Ala Glu Ala Ser Ser Ser Ser Ser Pro Leu Ser Asp Gly Arg
20 25 30
Ser Ala Met Val Pro Gly Asn Phe Ser Asp Glu Glu Val Leu Leu Ala
35 40 45
Ser His Gln Pro Lys Lys Arg Ala Gly Arg Lys Lys Phe Gln Glu Thr
50 55 60
Arg His Pro Val Tyr Arg Gly Val Arg Arg Arg Ser Ser Gly Lys Trp
65 70 75 80
Val Cys Glu Val Arg Glu Pro Asn Lys Lys Ser Arg Ile Trp Leu Gly
85 90 95
Thr Phe Pro Thr Ala Glu Met Ala Ala Arg Ala His Asp Val Ala Ala
100 105 110
Leu Ala Leu Arg Gly Arg Ser Ala Cys Leu Asn Phe Ala Asp Ser Ala
115 120 125
Trp Arg Leu Pro Ala Pro Ala Ser Ala Asp Ala Lys Asp Ile Gln Gln
130 135 140
Ala Ala Ala Gln Ala Ala Glu Ala Phe Arg Pro Ala Glu Ser Glu Ala
145 150 155 160
Glu Asp Val Met Ser Gly Tyr Glu Lys Lys Ser Pro Ser Glu Glu Gly
165 170 175
Met Leu Tyr Asp Asp Glu Asp Val Phe Gly Met Pro Gly Leu Leu Thr
180 185 190
Asn Met Ala Glu Gly Met Leu Leu Pro Pro Pro Gln Cys Gly Gly Asp
195 200 205
Gly Tyr Gly Gly Glu Asp Asp Gly Asn Leu Asp Ala Tyr Val Ser Leu
210 215 220
Trp Asn Tyr Ser Met
225

<210> 750
<211> 210
<212> PRT

<213> Eucalyptus grandis

<400> 750

Met Pro Ile Arg Ile Gln Asn Leu Pro Lys Lys Asn Phe Asp Gln Gly
1   5   10   15
Ser Ser Leu Ser Met Pro His Val Gly Val Thr Tyr Pro Pro Trp Trp
            20   25   30
Ser Leu Asn Glu Gln Gln Leu Pro Gln Ser Leu Pro Lys Asn Ser Gly
        35   40   45
Leu Lys Ala Glu Ser Pro Pro Met Leu His His Gln Ala Lys His Leu
    50   55   60
Gly Leu Gln Leu Gln Glu Gln Glu Ser Ser Ser Thr Gln Ser Ala Gly
65   70   75   80
Asn Ser Cys His Glu Val Ser Val Val Gly Gly Ala Asn Ser Gln Asp
                85   90   95
Gln Ser Ile Ser Ser Glu Ser Gly Gln Asp Glu Ser Cys Gly Arg Ser
            100   105   110
Phe Glu Gly Gln Thr Lys Pro Ile Phe Met Phe Asn Asn Pro Glu Ile
        115   120   125
Val Phe Asn Ser Ser Leu Ala Asp Gln Asn Gln Pro Leu Ile Arg Val
    130   135   140
Pro Tyr Pro Pro Val Asp Pro Tyr Tyr Gly Gly Leu Leu Thr Ala Tyr
145   150   155   160
Arg Pro Gln Ala Ile Ile Gln Ser Gln Val Gly Ser Gln Met Phe Gly
                165   170   175
Met Ala Pro Gly Arg Val Pro Leu Pro Leu Asn Leu Ala Asp His Gly
            180   185   190
Pro Ile Tyr Val Asn Ala Lys Gln Tyr Ser Arg Asn Ser Ser Glu Glu
        195   200   205
Ala Val
    210

<210> 751
<211> 93
<212> PRT
<213> Eucalyptus grandis

<400> 751

Gly Tyr Gly Phe Val Arg Phe Gly Asp Glu Thr Glu Gln Leu Arg Ala
1   5   10   15
Met Thr Glu Met Asn Gly Met Tyr Cys Ser Ser Arg Pro Met Arg Ile
            20   25   30
Gly Pro Ala Ala Asn Lys Lys Pro Ile Ala Thr Gln Gln Tyr Gln Ser
        35   40   45
Ala Ser Tyr Gln Asn Ser Gln Gly Asn Gln Gly Glu Asn Asp Pro Asn
    50   55   60
Asn Thr Thr Ile Phe Val Gly Gly Leu Asp Pro Ser Val Ser Asp Asp
65   70   75   80
Leu Leu Arg Gln Val Phe Ser Gln Tyr Gly Glu Leu His
                85   90

<210> 752
<211> 97
<212> PRT
<213> Eucalyptus grandis

<400> 752

```
Gly Tyr Arg Arg Ser Ala Lys Lys Cys Lys Glu Lys Phe Glu Asn Val
 1               5                  10                  15
His Lys Tyr Tyr Lys Arg Thr Lys Glu Gly Arg Ala Gly Arg Gln Asp
            20                  25                  30
Gly Lys Thr Tyr Lys Phe Phe Ser Glu Leu Glu Ala Leu His Asn Thr
        35                  40                  45
Ala Ala Gly Ala Thr Val Gly Ile Ser Ser Ser Phe Lys Trp Trp Trp
    50                  55                  60
Cys Cys Phe Trp His Cys Ser Pro Gly Arg Ser Leu Gly Thr Pro Ser
65                  70                  75                  80
Phe Asp Arg Asp Ile Val Arg Gln Pro Arg Pro Asn Leu His Cys Pro
                85                  90                  95
Arg


      <210> 753
      <211> 241
      <212> PRT
      <213> Eucalyptus grandis

      <400> 753
Met Glu Met Glu Asp His His Gln Tyr Thr Ala Ala Asp Leu Arg His
 1               5                  10                  15
Leu Ile Asn Ala Arg Pro Pro Pro Pro Pro Pro His Ile Gln Ser Ile
            20                  25                  30
Ser Pro Pro Glu Leu Phe Cys Gly Gly Gly Gly His Arg Asn Pro Thr
        35                  40                  45
Gln His Leu Glu Ser Met Met Met Gly Gly Gly Gly Leu His Asn Gly
    50                  55                  60
Gln Arg Gln Gly His Ser His Asn His Gln His His His Gln Phe Gly
65                  70                  75                  80
Arg Asp His Ser Ser Pro Ser Ser Val Ala Met Ala Gly Ala Ala Gly
                85                  90                  95
Gly Leu Glu Ser Glu Asn Gly Gly Asn Gly Arg Trp Pro Arg Gln Glu
            100                 105                 110
Thr Leu Thr Leu Leu Glu Ile Arg Ser Arg Leu Asp Ser Arg Phe Lys
        115                 120                 125
Glu Ala Asn Gln Lys Gly Pro Leu Trp Asp Glu Val Ser Arg Ile Met
    130                 135                 140
Ser Glu Glu His Gly Tyr Gln Arg Ser Gly Lys Lys Cys Arg Glu Lys
145                 150                 155                 160
Phe Glu Asn Leu Tyr Lys Tyr Tyr Lys Lys Thr Lys Glu Gly Lys Ala
                165                 170                 175
Gly Arg Gln Asp Gly Lys His Tyr Arg Phe Phe Arg Gln Leu Glu Ala
            180                 185                 190
Leu Tyr Gly Glu Asn Ala Asn Ser Asn Ser Ile Leu Gln Ala Pro Ser
        195                 200                 205
Leu Pro His Ser Leu His Phe His Pro Pro Pro Asn Ile Asn Asp Ile
    210                 215                 220
Asn Gln Asp Ala Ser His His Arg His Pro His Gln Leu Gln Arg Pro
225                 230                 235                 240
Cys


      <210> 754
      <211> 104
      <212> PRT
```

<213> Eucalyptus grandis

<400> 754
Met Glu Arg Gly Asp Pro Asn Val Val Ala Val Ala Arg Leu Arg Arg
1 5 10 15
Glu Asp Cys Glu Arg Thr Lys His Asp Ser Ala Phe Ala Thr Trp Lys
20 25 30
Val Leu Val Gly Pro Thr Asp Trp Glu Asp Tyr Ser Leu Gly Lys Glu
35 40 45
Gly Ala Ala Arg Tyr Arg Val His Asn Leu Pro Lys Ser Pro Gly Pro
50 55 60
Gly Ile Tyr Glu Leu Gly Val Ala Ala Ser His Ala Lys Leu Gly Arg
65 70 75 80
Glu Ile Ala Lys Leu Asp Pro Arg Tyr Ile Val Val Val Tyr Leu Gly
85 90 95
Lys Ala Asp Cys Val Arg Thr Arg
100

<210> 755
<211> 229
<212> PRT
<213> Eucalyptus grandis

<400> 755
Met Gly Tyr Ala Gln Leu Val Ile Gly Pro Ala Gly Ser Gly Lys Ser
1 5 10 15
Thr Tyr Cys Ser Ser Leu Tyr Gln His Cys Glu Ala Ile Gly Arg Thr
20 25 30
Ile His Ile Val Asn Leu Asp Pro Ala Ala Glu Asn Phe Asp Tyr Pro
35 40 45
Val Ala Met Asp Ile Arg Glu Leu Ile Ser Leu Asp Asp Val Met Glu
50 55 60
Glu Leu Gly Leu Gly Pro Asn Gly Gly Leu Met Tyr Cys Met Glu His
65 70 75 80
Leu Glu Glu Asn Leu Asp Asp Trp Leu Thr Glu Glu Leu Asp Asn Tyr
85 90 95
Leu Asp Asp Asp Tyr Leu Val Phe Asp Cys Pro Gly Gln Ile Glu Leu
100 105 110
Phe Ser His Val Pro Val Leu Arg Asn Phe Val Glu His Leu Gln Arg
115 120 125
Lys Asn Phe Asn Val Cys Gly Val Tyr Leu Leu Asp Ser Gln Phe Ile
130 135 140
Thr Asp Val Thr Lys Phe Ile Ser Gly Cys Met Ala Ser Leu Ser Ala
145 150 155 160
Met Val Gln Leu Glu Leu Pro His Val Asn Ile Leu Ser Lys Met Asp
165 170 175
Leu Val Lys Asn Lys Arg Asp Ile Asp Asp Tyr Leu Asn Pro Glu Pro
180 185 190
Arg Val Leu Leu Ser Glu Leu Asn Gln Thr Met Ala Pro Lys Phe Glu
195 200 205
Lys Leu Asn Lys Ala Leu Ala Glu Leu Val Asp Glu Tyr Ser Met Val
210 215 220
Ser Phe Ile Pro Leu
225

<210> 756
<211> 81

<212> PRT
<213> Eucalyptus grandis

<400> 756
Tyr Pro Thr Ile Ile Tyr Arg Pro Tyr Ser Phe Met Ala Lys Ile Ser
1 5 10 15
Ala Val Glu Arg Gly His Phe Leu Thr Val Ile Pro His Phe Ala Trp
20 25 30
Arg Leu Val Asn Pro Ala Thr Leu Lys Tyr Phe Asp Ala Pro His Arg
35 40 45
Pro Met Tyr Met Gln Glu Tyr Leu Tyr Ser Ile Arg Asn His Arg Tyr
50 55 60
Thr Ala Thr Met Leu Gln His Ile Ala Glu Asp Arg Asp Gly Thr Ser
65 70 75 80
His

<210> 757
<211> 115
<212> PRT
<213> Eucalyptus grandis

<400> 757
Met Pro Lys Gly Ser Ser Ile Lys Met Gly Val Pro Leu Gln His Ser
1 5 10 15
Ser Gly Ile Lys Gln Leu Asn Val His Phe Gln Glu Arg Asp Leu Cys
20 25 30
Ser Thr Gln Ser Thr Ser Gln Ser Phe Ser Glu Val Pro Asn Ile Gly
35 40 45
Gly Ser Thr Asp Cys Ser Gln Ala Thr Val Leu Glu Gln Thr Glu His
50 55 60
Gly Glu Thr Glu Gly Gln Ser Val Arg Gly Gln Ala Lys Ser Ala Leu
65 70 75 80
Ser Met Gly Thr Gln Asp Leu Val Phe Gln Pro Leu Glu Val Cys Ile
85 90 95
Pro Leu His Tyr Ala Glu Pro Ser Leu Gly Gly Phe Met Pro Ala Ala
100 105 110
Tyr Gly Pro
115

<210> 758
<211> 356
<212> PRT
<213> Eucalyptus grandis

<400> 758
Met Lys Glu Arg Gln Arg Trp Arg Ala Glu Glu Asp Ala Leu Leu Arg
1 5 10 15
Ala Tyr Val Lys Gln Tyr Gly Pro Arg Glu Trp His Leu Val Ser Gln
20 25 30
Arg Met Asn Thr Pro Leu Asn Arg Asp Ala Lys Ser Cys Leu Glu Arg
35 40 45
Trp Lys Asn Tyr Leu Lys Pro Gly Ile Lys Lys Gly Ser Leu Ser Glu
50 55 60
Glu Glu Gln Arg Leu Val Ile Gln Leu Gln Ala Lys His Gly Asn Lys
65 70 75 80
Trp Lys Lys Ile Ala Ala Glu Ile Pro Gly Arg Thr Ala Lys Arg Leu

85 90 95
Gly Lys Trp Trp Glu Val Phe Lys Glu Lys Gln Gln Arg Glu Gln Lys
100 105 110
Glu Asn Lys Gly Ala Leu Pro Ile Asp Glu Gly Lys Tyr Asp His Ile
115 120 125
Leu Glu Asn Phe Ala Glu Lys Leu Val Lys Glu Arg Ser Thr Pro Ala
130 135 140
Leu Leu Met Ala Thr Ala Asn Gly Gly Phe Ile His Thr Asp Ser Pro
145 150 155 160
Ala Leu Ala Pro Thr Leu Leu Pro Pro Trp Leu Ser Asn Ser Asn Gly
165 170 175
Thr Pro Thr Leu Arg Pro Pro Ser Pro Ser Val Thr Leu Ser Leu Ser
180 185 190
Pro Ala Thr Val Pro Ala Ser Gln Pro Ile Pro Trp Leu Gln Ala Asp
195 200 205
Arg Gly Leu Asp Ser Gly Ser Leu Ser Leu Thr Gly Leu Pro Asn His
210 215 220
Gly Pro Leu Pro Thr Ser Gly Glu Asn Ile Leu Met Ser Glu Leu Ala
225 230 235 240
Glu Cys Cys Lys Glu Leu Glu Glu Gly His Arg Ala Trp Ala Ala His
245 250 255
Lys Lys Glu Ala Ala Trp Arg Leu Lys Arg Leu Glu Leu Gln Leu Glu
260 265 270
Ser Glu Lys Ala Cys Arg Arg Arg Glu Lys Met Glu Glu Ile Glu Ala
275 280 285
Lys Ile Asn Thr Leu Arg Glu Glu Gln Lys Ala Ser Leu Asp Lys Ile
290 295 300
Glu Thr Glu Tyr Arg Glu Gln Leu Ala Gly Leu Arg Lys Asp Ala Glu
305 310 315 320
Ser Lys Glu Gln Lys Leu Ala Glu Gln Trp Thr Ala Lys His Val Gln
325 330 335
Leu Ser Lys Leu Ile Glu Gln Ile Gly Phe Arg Pro Arg Ile Ala Asp
340 345 350
His Asp Arg Gln
355

<210> 759
<211> 93
<212> PRT
<213> Eucalyptus grandis

<400> 759
Gly Leu Asp Ser Cys Ser Val Glu Glu Leu Gln Gln Thr Glu Asn Gln
1 5 10 15
Leu Glu Arg Ser Leu Thr Lys Ile Arg Ala Arg Lys Asn His Leu Ile
20 25 30
Arg Glu His Ile Glu Arg Leu Lys Ala Glu Glu Arg Lys Leu Leu Glu
35 40 45
Glu Lys Arg Lys Leu Leu Gln Glu Ile Glu Cys Gly Lys Gly Leu Thr
50 55 60
Pro Val Ser Ser Glu Pro Pro Arg Glu Glu Ile Arg Ala Glu Ser Met
65 70 75 80
Asp Val Glu Thr Glu Leu Phe Ile Gly Pro Pro Lys Arg
85 90

<210> 760
<211> 70

<212> PRT
<213> Eucalyptus grandis

<400> 760
Glu Asp Pro Val Gly Arg Pro Glu Ser Ala Ser Glu Ile Ser Gln Glu
1   5   10   15
Pro Gly Gln Glu Phe Met Asp Glu Asp Glu Leu Leu Asn Met Pro Lys
            20   25   30
Leu Leu Asp Asp Met Ala Glu Gly Met Leu Val Ser Pro Pro Arg Thr
        35   40   45
Gln Met Ala Ser Glu Asn Asp Ser Pro Glu Asp Ser Asp Gly Gly Glu
    50   55   60
Ser Leu Trp Ser Tyr Pro
65   70

<210> 761
<211> 243
<212> PRT
<213> Eucalyptus grandis

<400> 761
Met Cys Gly Gly Ala Ile Ile Ser Asp Phe Val Glu Glu Arg Leu Asp
1   5   10   15
Arg Arg Arg Pro Gly Ser Cys Arg Pro Glu Arg Lys Leu Thr Pro His
            20   25   30
Glu Leu Trp Ser Glu Leu Asp Pro Ala Ser Asp Leu Leu Ser Leu Asp
        35   40   45
Gly Pro Val Ala Gln Gly His Pro Asn Pro Phe Ser Leu Val Ala Asn
    50   55   60
Gln Leu Asn Gln Val Met Lys Ser Glu Glu Lys Asn Ser Glu Glu Ala
65   70   75   80
Gly His Gly His Val Ser Glu Thr Gln Lys Ser Gln Ser Asn Gly Arg
                85   90   95
Ser Gln Arg Ala Arg Lys Asn Val Tyr Arg Gly Ile Arg Gln Arg Pro
            100   105   110
Trp Gly Lys Trp Ala Ala Glu Ile Arg Asp Pro His Lys Gly Val Arg
        115   120   125
Val Trp Leu Gly Thr Phe Lys Thr Ala Glu Glu Ala Ala Arg Ala Tyr
    130   135   140
Asp Glu Ala Ala Lys Arg Ile Arg Gly Asp Lys Ala Lys Leu Asn Phe
145   150   155   160
Ser Gly Pro Pro Ala Pro Ala Gln Pro Ser Ala Lys Lys Arg Cys Val
                165   170   175
Ala Pro Asp Glu Pro Lys Asp Glu Ala Gly Ala Ala Gly Cys Glu Leu
            180   185   190
Lys Glu Arg Ile Ala Ser Leu Glu Ser Phe Leu Glu Leu Glu Pro Thr
        195   200   205
Glu Glu Pro Leu Glu Pro Gly Thr Gly Pro Ser Pro Ala Asp Leu Trp
    210   215   220
Met Leu Glu Asp Leu Val Thr His His Gln His Arg Phe Asp Asn Gln
225   230   235   240
Leu Val Tyr

<210> 762
<211> 125
<212> PRT

<213> Eucalyptus grandis

<400> 762
Gln Gln Arg Leu Leu Gln Tyr Trp Ser Asp Ala Leu Asn Leu Ser Pro
1   5   10   15
Arg Gly Arg Met Met Met Met Asn Arg Leu Gly Pro Asp Gly Arg Pro
            20   25   30
Ile Phe Arg Pro Pro Gln Pro Ile Asn Thr Thr Lys Leu Tyr Arg Gly
        35   40   45
Val Arg Gln Arg His Trp Gly Lys Trp Val Ala Glu Ile Arg Leu Pro
    50   55   60
Arg Asn Arg Thr Arg Leu Trp Leu Gly Thr Phe Asp Thr Ala Glu Asp
65   70   75   80
Ala Ala Leu Ala Tyr Asp Arg Glu Ala Phe Lys Leu Arg Gly Glu Asn
                85   90   95
Ala Arg Leu Asn Phe Pro Glu Leu Phe Leu Asn Lys Asp Lys Ala Glu
            100   105   110
Glu Ser Ala Gly Pro Ser Ser Ser Ser Ser Ser Pro Pro
        115   120   125

<210> 763
<211> 141
<212> PRT
<213> Eucalyptus grandis

<400> 763
Ser Ile Pro Ser Val Gly Leu Leu Val Gln Tyr Lys Leu Leu Asn Pro
1   5   10   15
Ala Ser Ser Tyr Ser Ser Cys Ile Met Ile Gln Asp Met Ser Gln Gly
            20   25   30
Phe Arg Lys Ile Asp Thr Asp Arg Trp Glu Phe Ala Asn Arg Gly Phe
        35   40   45
Gln Glu Gly Lys Lys His Leu Leu Lys Asn Ile Arg Arg Arg Arg Lys
    50   55   60
Leu Ser Asp His Arg Thr Thr Ser Ser Ser Thr Val Ala Ser Asp Tyr
65   70   75   80
Pro Glu Ala Gly Lys Glu Ala Glu Leu Glu Met Leu Lys Arg Asp Gln
                85   90   95
Glu Ala Leu Lys Ala Glu Ile Leu Lys Leu Arg Glu Glu Arg Glu Asn
            100   105   110
Ser Gln His Glu Ile Asn Gln Val Ile Glu Arg Phe Arg Tyr Ala Glu
        115   120   125
Cys Arg Cys Arg Arg Met Phe Leu Phe Leu Ser Lys Ala
    130   135   140

<210> 764
<211> 202
<212> PRT
<213> Eucalyptus grandis

<400> 764
Lys His Leu Leu Asn Asn Ile Tyr Arg Arg Lys Pro Ile His Ser His
1   5   10   15
Ser Gly Gln Gly Ala Arg Leu Ser Asp Ser Glu Lys Gln Met Tyr Glu
            20   25   30
Glu Glu Ile Lys Arg Leu Arg His Glu Lys Ser Ser Leu Gln Leu Glu
        35   40   45

Leu Gln Arg Tyr Gln Gly Asp Asn Gln Asp Val Asp Phe Gln Ile Gln
    50   55   60
Leu Leu Arg Lys Gln Phe Gln Asn Met Glu Gln Lys Gln Thr His Leu
65   70   75   80
Ile Thr Val Leu Ala Gln Leu Met Gln Lys Pro Val Phe Ala Ser Leu
                85   90   95
Phe Thr Gln Gln Ser Asp Ser Pro Thr Lys Lys Arg Arg Leu Ala Glu
            100   105   110
Leu Asp His Leu His Asp Ser Asp Asp Lys Ser Gly Leu Glu Ser Leu
        115   120   125
Lys Phe Gln Lys Glu Lys Phe Asn Gly Val Pro Phe Ser Leu Leu Asp
    130   135   140
Leu Asp Ser Val Glu Lys Leu Glu Gln Ser Leu His Phe Leu Glu Asn
145   150   155   160
Leu Leu Gln Gly Val Asp Asn Thr Ser Gly Ala Glu Gln His Asp Phe
                165   170   175
Gly Ala Ile Ser Leu Pro Trp Pro Ala Gly Phe Thr Glu Arg Lys Glu
            180   185   190
Ser Leu Asp Asp Ser Asp Arg His Ile His
        195   200

<210> 765
<211> 175
<212> PRT
<213> Eucalyptus grandis

<400> 765
Met Gln Pro Lys Ser Lys Ile Ser Asn Gly Val Asp Ala His Pro His
1   5   10   15
Ser Ile Gln Thr Ser Ala Val Phe Thr Glu Pro Trp Trp Arg Gly Tyr
            20   25   30
Asn Thr Ile Ser Pro Ala Asp Pro Gly Arg Asn Glu Thr His Ala Pro
        35   40   45
Leu Gly Cys Ile Asn Gly Gly Ser Glu Ser Asn Gly Gly Gln Ser Gln
    50   55   60
Ser Asn Glu Glu Arg Val Glu Glu Asp Asp Asp Asp Asp Asn Val Lys
65   70   75   80
Gly Ser Gly Asn Pro Ala Cys Ser Gly Ala Val Gly Asn Gln Gly Gln
                85   90   95
Gly Pro Gln Asn Gly His Gly Ala Pro Thr Ile Ile Thr Met Arg Asp
            100   105   110
Asp Gly Leu Ala Gln Pro Pro Gln Leu Glu Leu Val Gly His Thr Ile
        115   120   125
Ala Cys Ala Ser Asn Pro Tyr Gln Asp Pro Tyr Tyr Gly Gly Leu Met
    130   135   140
Ala Gln Tyr Gly His Gln Ser Met Ala Tyr Pro Phe Val Gly Ile Pro
145   150   155   160
His Ala Arg Met Pro Leu Pro Leu Asp Leu Ala Gln Glu Pro Cys
                165   170   175

<210> 766
<211> 190
<212> PRT
<213> Eucalyptus grandis

<400> 766
Thr Gly Ala Asn Glu Lys Asp Ser Val Met Glu Ile Thr Phe His Val

1   5   10   15
Pro Asn Ser Asn Thr Gln Phe Val Gly Asp Glu Asn Arg Pro Pro Ala
            20   25   30
Gln Val Phe Arg Asp Arg Ile Met Ser Val Ala Asp Val Gly Ala Gly
        35   40   45
Gly Glu Asp Ala Val Val Thr Phe Glu Gly Ile Ala Ile Leu Thr Pro
    50   55   60
Arg Gly Arg Tyr Ser Val Glu Leu His Leu Ser Phe Leu Arg Leu Gln
65   70   75   80
Gly Gln Ala Asn Asp Phe Lys Ile Gln Tyr Ser Ser Val Val Arg Leu
                85   90   95
Phe Leu Leu Pro Lys Ser Asn Gln Pro His Thr Phe Val Ile Ile Thr
            100   105   110
Leu Asp Pro Pro Ile Arg Lys Gly Gln Thr Leu Tyr Pro His Ile Val
        115   120   125
Met Gln Phe Glu Thr Asp Tyr Val Val Gln Ser Thr Leu Ser Met Asn
    130   135   140
Asp Asp Leu Phe Asn Thr Lys Tyr Lys Asp Lys Leu Glu Pro Ser Tyr
145   150   155   160
Lys Gly Leu Ile His Glu Val Phe Thr Thr Ile Leu Arg Gly Leu Ser
                165   170   175
Gly Ala Lys Val Thr Lys Pro Gly Lys Phe Arg Ser Ser Gln
            180   185   190

<210> 767
<211> 251
<212> PRT
<213> Eucalyptus grandis

<400> 767
Leu Glu Thr Ser Gly Asn Arg Leu Ala Arg Ala Ile Ser Asp Ala Asp
1   5   10   15
Thr Ser Ser Ala Ala Ala Leu Met Asp Met Leu Glu Gln Met Val Ser
            20   25   30
Val Met Gly Asp Pro Ile Gln Arg Leu Gly Ala Tyr Leu Leu Glu Gly
        35   40   45
Leu Arg Ala Lys Leu Lys Phe Ser Gly Ser Ile Ile Tyr Arg Lys Leu
    50   55   60
Lys Cys Glu Glu Pro Thr Ser Ser Glu Leu Leu Thr Asn Met Gln Val
65   70   75   80
Leu Tyr Gln Ile Cys Pro Tyr Trp Lys Phe Ala Tyr Val Ser Thr Asn
                85   90   95
Val Ile Ile Thr Lys Ala Met Glu Asn Glu Gln Arg Ile His Ile Val
            100   105   110
Asp Phe Gln Ile Thr Gln Gly Ser Gln Trp Val Thr Phe Ile Gln Ala
        115   120   125
Leu Ala Gln Arg Pro Gly Gly Pro Pro Leu Leu Arg Ile Thr Gly Ile
    130   135   140
Asp Asp Ser Asp Ser Val His Ala Arg Gly Ala Gly Leu Glu Ile Val
145   150   155   160
Gly Gln Lys Leu Ser Glu Ile Ala Glu Ser Cys Asn Val Pro Phe Glu
                165   170   175
Phe His Asp Ala Ala Val Ser Leu Ser Glu Val Glu Leu Gln Asn Leu
            180   185   190
Met Ile Arg Pro Gly Asp Ala Leu Ala Val Asn Cys Pro Tyr Ile Leu
        195   200   205
His His Ile Pro Asp Glu Ser Val Ser Thr Gln Asn His Arg Asp Arg

210 215 220
Val Leu Arg Leu Ile Lys Ser Leu Ser Pro Arg Val Val Thr Leu Val
225 230 235 240
Glu Gln Glu Ser Asn Thr Asn Thr Ser Ser Phe
245 250

<210> 768
<211> 174
<212> PRT
<213> Eucalyptus grandis

<400> 768
Gly Asn Trp Asp Glu Pro Thr Lys Glu Glu Val Asn Glu Pro Ala Asp
1 5 10 15
Ile Ala Glu Ala Lys Thr Val Ser Asp Ser Glu Glu Ala Lys Pro Asn
20 25 30
Ala Lys Arg Lys Gln Pro Glu Lys Glu Ala Ser Glu Lys Glu Ala Ser
35 40 45
Lys Lys Glu Pro Asn Lys Pro Pro Asn Ser Trp Phe Asp Leu Lys Val
50 55 60
Asn Thr His Val Tyr Val Thr Gly Leu Pro Glu Asp Val Thr Met Glu
65 70 75 80
Glu Val Val Glu Val Phe Ser Lys Cys Gly Ile Leu Lys Glu Asp Pro
85 90 95
Glu Thr Lys Lys Pro Arg Val Lys Ile Tyr Val Asp Lys Glu Thr Gly
100 105 110
Arg Lys Lys Gly Asp Ala Leu Val Thr Tyr Leu Lys Glu Pro Ser Val
115 120 125
Ala Leu Ala Ile Gln Ile Leu Asp Gly Ala Pro Phe Arg Pro Gly Gly
130 135 140
Lys Val Pro Met Ser Val Ser Gln Ala Lys Phe Glu Gln Lys Gly Asp
145 150 155 160
Lys Phe Ile Ser Lys Gln Val Asp Gly Lys Lys Lys Arg Asn
165 170

<210> 769
<211> 218
<212> PRT
<213> Eucalyptus grandis

<400> 769
Thr Phe Glu Gln Leu Leu Leu Pro Phe Leu Tyr Glu Leu Gln Ile Leu
1 5 10 15
Ile Asp Leu Ser Asn Asp Lys Ala Thr Val Leu Thr Asp Lys Ile Gln
20 25 30
Val Leu Lys Asp Leu Thr Thr Glu Val Asn Lys Leu Lys Ala Glu Cys
35 40 45
Ala Ala Leu Ile Glu Glu Ser Arg Glu Glu Lys Asn Glu Leu Arg Glu
50 55 60
Glu Lys Ser Ser Leu Lys Ser Glu Val Glu Asn Leu Asn Val Gln Tyr
65 70 75 80
Gln Gln Arg Thr Arg Val Met Tyr Pro Trp Ala Ala Met Asp Pro Ser
85 90 95
Val Val Met Gly Pro Ala Tyr Ser Tyr Pro Gly Pro Ile Pro Val Thr
100 105 110
Pro Gly Pro Ile Pro Met Leu Ser Gln Leu Gln Pro Phe Pro Phe Phe
115 120 125

Gly Asn Gln Asn Ala Ser Ala Ile Pro Ala Pro Cys Ser Thr Phe Ile
    130   135   140
Pro Asn Ser Met Pro Ala Asn Pro Thr Phe Glu Gln Gln Ser Thr Gln
145   150   155   160
Tyr Ala Ser Thr Ser His Val Ser Asn Lys Lys Asp Ser Lys Ser Arg
                165   170   175
Ser Ser Asp His Gln Arg Gly Ser Ile Ala Glu Gln Asp Glu Asp Ser
            180   185   190
Asn Asn Val Ala Thr Asp Leu Glu Leu Lys Met Pro Gly Thr Ser Ser
        195   200   205
His Gln Asp Leu Thr Ser Gly Glu Lys Lys
    210   215

<210> 770
<211> 188
<212> PRT
<213> Eucalyptus grandis

<400> 770
His Pro Met Lys Pro Glu Ser Val Glu Val Leu Asn Phe Gly Asp Ser
1   5   10   15
Gly Ser Gly Arg Leu Leu Ser Ser His Ser Gln Val Ala Val Ala Glu
            20   25   30
Glu Pro Leu Asn His Val Glu Ala Glu Arg Gln Arg Arg Glu Lys Leu
        35   40   45
Asn Gln Arg Phe Tyr Ala Leu Arg Ala Val Val Pro Asn Val Ser Lys
    50   55   60
Met Asp Lys Ala Ser Leu Leu Gln Asp Ala Glu Ser Tyr Ile Arg Glu
65   70   75   80
Leu Asn Met Asn Leu Gln Ala Ala Glu Ser Asp Lys Glu Asp Leu Lys
                85   90   95
Lys Gln Leu Asp Glu Leu Lys Lys Arg Ser Ser Asp Lys Glu Cys Ile
            100   105   110
Pro Val Asp Gln Asp Arg Lys Met Ala Lys Pro Thr Gly Ser Arg Ser
        115   120   125
Thr Gly Val Ala Ile Asp Val Lys Ile Met Gly Trp Asp Ala Val Val
    130   135   140
Arg Val Glu Ser Gly Arg Lys Asp His Pro Ala Ala Arg Leu Met Val
145   150   155   160
Ala Leu Gln Glu Leu Asn Leu Glu Leu Gln His Ala Ser Val Ser Val
                165   170   175
Val Asn Glu Leu Met Ile Gln Gln Ala Thr Val Lys
            180   185

<210> 771
<211> 157
<212> PRT
<213> Eucalyptus grandis

<400> 771
Met Met Leu Gly Glu Pro His Arg Pro Pro Asn Pro Thr Ile Asp Val
1   5   10   15
Pro Pro Trp Pro Ile Leu Asp Asp Pro Thr Asp Asp Ala Val Pro His
            20   25   30
Ser Pro Tyr Ser Pro Tyr Thr Leu Asn Ala Gly Tyr Gly Gly Gly Cys
        35   40   45
Asp Ser Ser Pro Ser Ala Ala Gly Pro Gly His Phe Gln Asp Val Met

50 55 60
Ala Ala Leu Arg Arg Phe Leu Pro Ser Asn Arg Pro Asp Thr Asp Pro
65 70 75 80
Asp Pro Asp Met Thr Ser Ser Arg Glu Ala Asp Phe Pro Met Asp Val
85 90 95
Tyr Ser Cys Asp Asn Phe Arg Met Tyr Glu Phe Lys Val Arg Arg Cys
100 105 110
Ala Arg Gly Arg Ser His Asp Trp Thr Glu Cys Pro Tyr Ala His Pro
115 120 125
Gly Glu Lys Ala Arg Arg Arg Asp Pro Arg Lys Tyr His Tyr Ser Gly
130 135 140
Thr Ala Cys Pro Glu Phe Arg Lys Gly Ser Cys Arg Lys
145 150 155

<210> 772
<211> 129
<212> PRT
<213> Eucalyptus grandis

<400> 772
Asp Glu Pro Ser Thr Ser Ala Thr Asn Ser Gly Gly Gly Ala Ala Ala
1 5 10 15
Ala Ser Ser Ser Gly Gly Gly Arg Ser His Glu Cys Ser Ile Cys His
20 25 30
Lys Ser Phe Pro Thr Gly Gln Ala Leu Gly Gly His Lys Arg Cys His
35 40 45
Tyr Asp Gly Gly Ala Ser Gly Ser Ala Asn Ser Gly Val Thr Thr Ser
50 55 60
Glu Gly Val Gly Ser Ala Ala Pro Pro Ala Leu Gly Tyr Asp Ser Gly
65 70 75 80
Arg Arg Asn Phe Asp Leu Asn Val Pro Ala Leu Pro Glu Phe Pro Thr
85 90 95
Gly Phe Ile Val Ser Gly Asp Asp Glu Val Glu Ser Pro His Pro Ser
100 105 110
Lys Lys Pro Arg Phe Ser Thr Pro Leu Lys Ile Lys Leu Ser Pro Glu
115 120 125
Gln

<210> 773
<211> 149
<212> PRT
<213> Eucalyptus grandis

<400> 773
Met Ala Phe Glu Gln Tyr Phe Ala Gln Glu Trp Arg Pro Ile Pro Gly
1 5 10 15
Pro Ala Met Asp Ser Gly Ser Ser Asp Gly Cys Phe Asp Cys Asn Ile
20 25 30
Cys Leu Asp Phe Ala Ile Glu Pro Val Val Thr Leu Cys Gly His Leu
35 40 45
Tyr Cys Trp Pro Cys Ile Tyr Lys Trp Leu His Val Gln Ser Ala Ser
50 55 60
Leu Ala Ser Asp Glu His Pro Gln Cys Pro Val Cys Lys Ala Glu Ile
65 70 75 80
Ser His Thr Ala Met Val Pro Leu Tyr Gly Arg Gly Gln Ser Ser Lys
85 90 95

Glu Ser Asp Leu Gln Asp Lys Ala Leu Gln Leu Gly Thr Ile Val Pro
100 105 110
Pro Arg Pro Ala Ala Cys Gly Ile Gln Ala Leu Ala Ser Thr Thr Pro
115 120 125
Arg Ser Gly Gln Gln Leu Pro Tyr Arg Asn Pro Tyr Gln Asn Pro Tyr
130 135 140
Tyr Ser Ala Asn Ser
145

<210> 774
<211> 175
<212> PRT
<213> Eucalyptus grandis

<400> 774
Met Val Lys Arg Asp Arg Glu Asp Thr Glu Val Glu Ala Leu Ala Arg
1 5 10 15
Ala Asn Cys Leu Met Leu Leu Ser Arg Val Gly Glu Ser Thr Asp Ser
20 25 30
Ala Ser Pro Asp Arg Lys Ser Arg Pro Thr Glu Arg Met Phe Ala Cys
35 40 45
Lys Thr Cys Asn Arg Glu Phe Ser Ser Phe Gln Ala Leu Gly Gly His
50 55 60
Lys Ala Ser His Lys Lys Pro Lys Leu Ile Ser Gly Asp Leu Phe His
65 70 75 80
Leu Gly His Ala Ala Asp Ser Ser Pro Ala Lys Pro Lys Thr His Glu
85 90 95
Cys Ser Ile Cys Gly Leu Asp Phe Pro Met Gly Gln Ala Leu Gly Gly
100 105 110
His Met Arg Arg His Arg Ala Ala Met Leu Glu Ser Leu Ala Ala Ala
115 120 125
Ala Ala Lys Pro Val Pro Val Leu Lys Lys Ser Asn Ser Lys Arg Val
130 135 140
Thr Gly Leu Asp Leu Asn Ser Leu Pro Met Glu Asp Asp Leu Thr Leu
145 150 155 160
Arg Leu Gly Lys Val Ala Pro Pro Leu Val Leu Asp Leu Val Leu
165 170 175

<210> 775
<211> 154
<212> PRT
<213> Eucalyptus grandis

<400> 775
Pro Asp Ala Ala Gly Glu Arg Leu Gly His Gly Asp Gln Glu Glu Pro
1 5 10 15
Leu Gly Val Gly Gly Val Gly Leu Pro Gly Arg Ala Tyr Phe Ser Ser
20 25 30
Asn Pro Ala Trp Val Thr Gly Ala Glu Arg Leu Gly Asn Cys Gly Cys
35 40 45
Asp Arg Ala Arg Gln Ala Gln Ile Phe Gly Leu Gln Thr Ile Ala Cys
50 55 60
Val Pro Val Leu Asn Gly Val Val Glu Leu Gly Ser Thr Glu Pro Ile
65 70 75 80
Tyr Gln Ser Ser Asp Leu Ile Ser Gly Ile Arg Gly Leu Phe Asn Phe
85 90 95
His Glu Ser Glu Met Gly Cys Gly Gly Arg Val Leu Asn Ser Glu His

100 105 110
Asp Pro Ala Ser Leu Trp Ile Cys Asp Pro Pro Val Thr Met Glu Ile
115 120 125
Asn Asp Arg Pro Met Thr Phe Gln Ile Glu Asn Pro Ser Ser Ser Ser
130 135 140
Leu Thr Glu Ser Pro Ser Ala Ile Cys Ala
145 150

<210> 776
<211> 177
<212> PRT
<213> Eucalyptus grandis

<400> 776
Leu Gly Thr Gln Ile Pro Ser Gly Ile His Met Pro Ser Ala Asn Leu
1 5 10 15
Ser Ser Ile Ser Ile Leu Gly Pro Ile Pro Met Val Ser Gly Asp Gly
20 25 30
Gly Gly Arg Thr Gly Ser Glu Arg Ser Arg Asn Ala Asp Cys Ala Pro
35 40 45
Ala Gly Phe Pro Gly Gly Asp Glu Asp Val Asn Lys Gly Gly Asp Ile
50 55 60
Pro Tyr Gly Met Ser Thr Ile Val Arg Val Ile Pro Asn Ser Arg Tyr
65 70 75 80
Leu Arg Val Ala Gln Gln Leu Leu Asp Glu Ile Val Asn Val Arg Lys
85 90 95
Ala Leu Lys Arg Pro Asp Asp Ala Asn Asp Gln Ser Arg His Glu Asn
100 105 110
Gln Arg Ser Pro Lys Asp Ala Asp Gly Gly Ser Lys Asn Glu Ala Ser
115 120 125
Ser Asn Pro Gln Glu Ser Ala Ser Asn Ser Ser Glu Leu Ser Ala Ala
130 135 140
Glu Lys Gln Asp Leu Gln Asn Lys Leu Thr Lys Leu Leu Ser Met Leu
145 150 155 160
Asp Glu Val Asp Lys Arg Tyr Lys Gln Tyr Tyr His Gln Met Gln Ile
165 170 175
Val

<210> 777
<211> 59
<212> PRT
<213> Eucalyptus grandis

<400> 777
Gly Asn Glu Val Ser Ser Asp Tyr Gly Trp Lys Phe Leu Phe Ala Gly
1 5 10 15
Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
20 25 30
Arg Pro Asp Ile Lys Arg Gly Asn Ile Ser Pro Asp Glu Glu Glu Leu
35 40 45
Ile Ile Arg Leu His Lys Leu Leu Gly Asn Arg
50 55

<210> 778
<211> 175
<212> PRT

<213> Eucalyptus grandis

<400> 778

Met His His Pro Pro Asn Pro Asp Ser Leu Ser Leu Leu Gln Ser Ala
1   5   10   15
Arg Thr Pro Asn Ala Pro Pro Glu His Pro Val Pro Ser Thr Ser Arg
            20   25   30
Arg Asp Glu Val Ala Val Leu Lys Ser Gln Lys Ala Gly Arg Glu Lys
        35   40   45
Leu Arg Arg Asp Arg Leu Asn Glu His Phe Ile Glu Leu Gly Asn Thr
    50   55   60
Leu Asp Pro Asp Arg Pro Lys Asn Asp Lys Ala Thr Ile Leu Ser Asp
65   70   75   80
Thr Val Gln Leu Leu Lys Asp Leu Thr Ala Gln Val Asn Gln Leu Lys
                85   90   95
Ala Glu Tyr Ser Thr Phe Cys Glu Glu Ser Arg Glu Leu Thr Gln Glu
            100   105   110
Lys Asn Asp Leu Lys Glu Glu Lys Ala Ser Leu Lys Ser Asp Ile Glu
        115   120   125
Ser Leu Asn Ala Gln Tyr Gln Gln Arg Ala Arg Ala Met Phe Pro Trp
    130   135   140
Pro Ile Met Asp His Ser Val Val Met Ala Pro Pro Ser Tyr Pro Tyr
145   150   155   160
Pro Val Pro Val Ala Val Pro Ser Gly Pro Ile Pro Val His Pro
                165   170   175

<210> 779
<211> 162
<212> PRT
<213> Eucalyptus grandis

<400> 779

Met Asn Val Glu Lys Leu Met Lys Met Ala Gly Ser Val Arg Thr Gly
1   5   10   15
Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Ala Val His Lys Thr Thr
            20   25   30
Thr Thr Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
        35   40   45
Asn Ala Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp Val
    50   55   60
Val Ile Gln Phe Val Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
65   70   75   80
Thr Trp Val Val Ser Gly Ala Pro Gln Thr Lys Lys Leu Gln Asp Ile
                85   90   95
Leu Pro Gly Ile Ile Asn Gln Leu Gly Pro Asp Asn Leu Asp Asn Leu
            100   105   110
Arg Lys Leu Ala Glu Gln Phe Gln Lys Gln Ser Pro Gly Ala Ala Ala
        115   120   125
Thr Ala Gly Ala Thr Ala Met Gln Glu Asp Asp Asp Asp Glu Val Pro
    130   135   140
Glu Leu Val Pro Gly Glu Thr Phe Glu Ala Ala Ala Glu Glu Gly His
145   150   155   160
Lys Ser

<210> 780
<211> 151

<212> PRT
<213> Eucalyptus grandis

<400> 780
Met Gly Glu Pro Ile Phe Leu Pro Gly Arg Thr Ser Leu Val Gly Ser
1   5   10   15
Ile Ser Val Asn Val Val Gly Ile Gln His Asn Ala Gly Thr Phe Arg
            20   25   30
Ala Gly Glu Thr Val Ala Leu Val Arg Glu Pro Ser Asn Thr Asp Asp
        35   40   45
Glu Met Ala Ile Gln Val Leu Asn Thr Arg Gly Met Val Val Gly Tyr
    50   55   60
Ile Lys Arg Glu Ala Ala Lys Val Leu Ala Pro Leu Ile Asp Ser Gln
65   70   75   80
Leu Ile Ser Val Tyr Ala Ile Val Pro Lys Val Pro Arg Val Glu Lys
                85   90   95
Leu Phe Phe Ile Asn Cys Gln Val Arg Val Leu Ala Arg Asp Asp Asp
            100   105   110
Phe Glu His Val Lys Ser Thr Ile Leu Glu Gly Lys Leu Met Leu Thr
        115   120   125
Pro Pro Val Gly Lys Glu Val Arg Gly Val Asn Glu Ser Phe Thr Leu
    130   135   140
Val Gly Gln Gly Val Glu Lys
145   150

<210> 781
<211> 611
<212> PRT
<213> Eucalyptus grandis

<400> 781
Met Met Met Phe Glu Asp Met Gly Ile Cys Gly Asp Leu Asp Phe Phe
1   5   10   15
Ser Ala Pro Leu Gly Glu Gly His Gly Val Ala Pro Gln Thr Glu Pro
            20   25   30
Glu Ala Thr Val Glu Asp Asp Tyr Ser Asp Glu Glu Ile Asp Val Asp
        35   40   45
Glu Leu Glu Arg Arg Met Trp Arg Asp Lys Met Arg Leu Lys Arg Leu
    50   55   60
Lys Glu Gln Asn Lys Gly Lys Glu Gly Val Asp Ile Ala Lys Gln Arg
65   70   75   80
Gln Ser Gln Glu Gln Ala Arg Arg Lys Lys Met Ser Arg Ala Gln Asp
                85   90   95
Gly Ile Leu Lys Tyr Met Leu Lys Met Met Glu Val Cys Lys Ala Gln
            100   105   110
Gly Phe Val Tyr Gly Ile Ile Pro Glu Lys Gly Lys Pro Val Thr Gly
        115   120   125
Ala Ser Asp Asn Leu Arg Glu Trp Trp Lys Asp Lys Val Arg Phe Asp
    130   135   140
Arg Asn Gly Pro Ala Ala Ile Ala Lys Tyr Gln Ala Asp His Ser Val
145   150   155   160
Pro Gly Lys Asn Asp Gly Cys Asn Pro Ile Gly Pro Thr Pro His Thr
                165   170   175
Leu Gln Glu Leu Gln Asp Thr Thr Leu Gly Ser Leu Leu Ser Ala Leu
            180   185   190
Met Gln His Cys Asp Pro Pro Gln Arg Arg Phe Pro Leu Glu Lys Gly
        195   200   205

Val Pro Pro Pro Trp Trp Pro Thr Gly Asn Glu Asp Trp Trp Pro Gln
    210   215   220

Leu Gly Leu Pro Lys Asp Gln Gly Ala Pro Pro Tyr Lys Lys Pro His
225   230   235   240

Asp Leu Lys Lys Ala Trp Lys Val Gly Val Leu Thr Ala Val Ile Lys
                245   250   255

His Met Ser Pro Asp Ile Ala Lys Ile Arg Lys Leu Val Arg Gln Ser
            260   265   270

Lys Cys Leu Gln Asp Lys Met Thr Ala Lys Glu Ser Ala Thr Trp Leu
        275   280   285

Ala Ile Ile Asn Gln Glu Glu Ser Leu Ala Arg Glu Leu Tyr Pro Asp
    290   295   300

Ser Cys Leu Pro Leu Ser Ser Ser Gly Gly Ser Gly Ser Leu Val Ile
305   310   315   320

Asn Asp Cys Ser Glu Tyr Asp Val Glu Gly Met Glu Asp Glu Pro Asn
                325   330   335

Tyr Asp Val Gln Glu Arg Lys Pro Glu Asn Leu Asn Pro Pro Ser His
            340   345   350

Leu Gly Leu Glu Arg Met Arg Gly Pro Phe Val Gln Gln Ser Pro Phe
        355   360   365

Gln Met Lys Gly Glu Val Val Ser Asn Leu Asp Met Ala Arg Lys Arg
    370   375   380

Lys Pro Cys Asn Asp Leu Asn Met Val Met Asp His Lys Ile Phe Thr
385   390   395   400

Cys Glu Phe Leu Gln Cys Pro Tyr Ser Glu Leu Arg Leu Gly Phe Arg
                405   410   415

Asp Arg Thr Ser Arg Asp Asn His Gln Leu Ser Cys Pro Tyr Arg Ser
            420   425   430

Asn Ser Ser Glu Phe Gly Gly Ser Asn Phe His Val Asn Glu Val Lys
        435   440   445

Pro Val Ile Phe Pro Gln Gly Phe Val Gln Ser Lys Pro Met Thr Ser
    450   455   460

Thr Val Asn Ser Ala Ser Thr Pro Phe Asp Leu Ser Gly Leu Gly Val
465   470   475   480

Pro Glu Asp Gly Gln Lys Val Ile Ser Asp Leu Met Ser Ile Tyr Asp
                485   490   495

Thr Ser Ile Gln Gly Asn Lys Asn Met Asn Pro Ala Asn Asp Ala Ile
            500   505   510

Ile Glu Asp Gln Ser Arg Pro Gln Pro Lys Leu Gln Gln Gln Asn Glu
        515   520   525

Phe Val Gly Ser Phe Phe Gln Gln Pro Asn Ala Ser Ala Asn His His
    530   535   540

Met Phe Ser Arg Glu Asp Ile Gln Phe Asp Arg Phe Lys Thr Met Asn
545   550   555   560

Ser Ser Phe Glu Ala Asn Asn His Asn His Asp Asn Leu Gln Leu Met
                565   570   575

Phe Gly Ser Pro Phe Asp Leu Ser Ser Phe Asp Phe Lys Glu Glu Leu
            580   585   590

Pro Gly Gly Val Met Asp Pro Leu Pro Lys Gln Asp Val Thr Ile Trp
        595   600   605

Phe Gln Gln
    610

<210> 782
<211> 133
<212> PRT
<213> Eucalyptus grandis

<400> 782

Met Val Lys Arg Asp Arg Glu Asp Thr Glu Val Glu Ala Leu Ala Leu
1   5   10   15

Ala Asn Cys Leu Met Leu Leu Ser Arg Val Gly Lys Ser Thr Asp Ser
            20   25   30

Pro Trp Leu Asn His Lys Ser Arg Pro Thr Glu Arg Met Phe Ala Cys
        35   40   45

Lys Thr Cys Asn Arg Glu Phe Ser Ser Phe Gln Ala Leu Gly Gly His
    50   55   60

Arg Ala Ser His Lys Lys Pro Lys Leu Ser Gly Asp Leu Phe His Leu
65   70   75   80

Gly Arg Ser Ala Asp Ser Ser Pro Ala Lys Pro Lys Thr His Glu Cys
                85   90   95

Ala Ile Cys Gly Leu Glu Phe Pro Leu Gly Gln Ala Leu Gly Gly His
            100   105   110

Met Arg Arg His Arg Ala Ala Met Ala Glu Ser Leu Ala Thr Ala Glu
        115   120   125

Lys Pro Val Pro Val
    130

<210> 783
<211> 145
<212> PRT
<213> Eucalyptus grandis

<400> 783

Met Val Met Asp Ile Ser Asn Asp Asp Arg Tyr Leu Asn Glu Glu Ile
1   5   10   15

Gly Gly Pro Lys Asp Ala Leu Asp Asp Gly Thr Gln Pro Asn Asn Lys
            20   25   30

Arg Lys Arg Gly Arg Ala Pro Lys Arg Ala Met Lys Ala Glu Arg Glu
        35   40   45

Lys Leu Lys Arg Asp His Leu Asn Glu Leu Phe Asp Lys Leu Gly Ser
    50   55   60

Leu Leu Glu Leu Ser Glu Pro Asn Asn Gly Lys Ala Ser Ile Ile Asn
65   70   75   80

Glu Thr Ile Arg Leu Leu Lys Asp Met Ile Ser Gln Ile Gln Ser Leu
                85   90   95

Arg Lys Glu Asn Thr Thr Leu Leu Ser Glu Ser His Tyr Val Ala Ala
            100   105   110

Glu Thr Asn Glu Leu Lys Asp Glu Asn Phe Ala Leu Glu Ala Gln Ile
        115   120   125

Lys Asn Val Gln Arg Glu Leu Glu Asp Lys Leu Gly His Ser Lys Pro
    130   135   140

Asp
145

<210> 784
<211> 322
<212> PRT
<213> Eucalyptus grandis

<400> 784

Glu Cys Leu Pro Leu Leu Asp Met Thr Gln Gln Pro Pro Trp Gln Glu
1   5   10   15

Leu Val Ala Thr Asp Leu His Gly Asn Glu Trp His Phe Arg His Ile

20 25 30
Phe Arg Gly Gln Pro Arg Arg His Leu Leu Thr Thr Gly Trp Ser Val
35 40 45
Phe Val Ser Ser Lys Lys Leu Ile Ala Gly Asp Ala Phe Ile Phe Leu
50 55 60
Arg Gly Glu Asp Gly Glu Leu Arg Val Gly Val Arg Arg Leu Met Arg
65 70 75 80
Gln Gln Ser Asn Met Pro Ser Ser Val Ile Ser Ser His Ser Met His
85 90 95
Leu Gly Val Leu Ala Thr Ala Ser His Ala Ile Ala Thr Gly Thr Leu
100 105 110
Phe Ser Val Phe Tyr Lys Pro Arg Thr Ser Arg Ser Glu Phe Ile Val
115 120 125
Ser Leu Asn Lys Tyr Leu Glu Ala Arg Ala His Lys Leu Ser Ile Gly
130 135 140
Met Arg Phe Lys Met Lys Phe Glu Gly Glu Glu Val Ser Glu Arg Arg
145 150 155 160
Phe Ser Gly Thr Ile Ile Gly Val Gly Asp Ser Met Ser Ser Gly Trp
165 170 175
Thr Asn Ser Glu Trp Arg Ser Leu Lys Val Gln Trp Asp Glu Pro Ser
180 185 190
Ser Ile Met Arg Pro Asp Arg Val Ser Ser Trp Glu Leu Glu Pro Leu
195 200 205
Val Val Thr Ala Pro Ser Asn Ser Gln Gln Val Gln Arg Lys Arg Ala
210 215 220
Arg Pro Thr Val Leu Pro Ser Ser Ser Val Gln Glu Leu Ser Ala Phe
225 230 235 240
Gly Gly Pro Lys Ala Pro Glu Tyr Ser Ser Asp Phe Leu His Gly Asp
245 250 255
Ser Gln Arg Gly Arg Asp Val Tyr Leu Ser Pro Lys Phe Ser Pro Ser
260 265 270
Ala Arg Ser Lys Ser Leu Asn Tyr Asn Gly Asn Gly Ser Pro Ala Ala
275 280 285
Leu Ser Gly Tyr Thr Val Asn Trp Pro Ser His Met Glu Thr Ile Thr
290 295 300
Asp Pro Cys Thr Pro Val Asn Gly Lys Glu Ser Ser Glu Lys Arg Glu
305 310 315 320
Ser Gly

<210> 785
<211> 50
<212> PRT
<213> Eucalyptus grandis

<400> 785
Met Ala Ser Gln Phe Asn Phe Lys Gly Ile Thr Asp Ala Ser Gln Ala
1 5 10 15
Glu Gly Val Ala Gly Lys Ser His Gly Asn His Ser Leu Thr Arg Gln
20 25 30
Pro Ser Ile Tyr Ala Leu Thr Phe Asp Glu Phe Gln Asn Thr Trp Gly
35 40 45
Gly Leu
50

<210> 786
<211> 152

<212> PRT
<213> Eucalyptus grandis

<400> 786

Glu Thr Ser Pro Ser Ser Ser Ser Leu Thr Thr Thr Thr Ala Pro Ala
1   5   10   15
Pro Ala Ala Ala Ala Ala Ala Ala Thr Thr Ser Ser Ser Ser Tyr Ser
            20   25   30
Ser Ala Val Ala Val Ala Ala Thr Thr Ala Thr Thr Ser Ser Ser Ser
        35   40   45
Thr Ser Ser Thr Gly Ser Asp Pro Ala Leu Glu Pro Ser Lys Arg Ser
    50   55   60
Glu Asp Cys Thr Ser Gln Lys Gly Pro Gly Lys Ser Pro Ser Pro Gly
65   70   75   80
Ala His Pro Glu Glu Pro Ala Gly Lys Arg His Lys Ala Gly Gly Ser
                85   90   95
Gly Glu His Pro Thr Tyr Arg Gly Val Arg Met Arg Asn Trp Gly Lys
            100   105   110
Trp Val Ser Glu Ile Arg Glu Pro Arg Lys Lys Ser Arg Ile Trp Leu
        115   120   125
Gly Thr Tyr Pro Thr Ala Glu Met Ala Ala Arg Ala His Asp Val Ala
    130   135   140
Ala Leu Ala Ile Lys Gly Ser Phe
145   150

<210> 787
<211> 148
<212> PRT
<213> Eucalyptus grandis

<400> 787

Met Phe Pro Arg Pro Lys Val Asp Pro Ala Ser Ala Gly Thr Val Val
1   5   10   15
Ile Arg Glu Val Trp Ala His Asn Leu Glu Ser Glu Phe Asp Leu Ile
            20   25   30
Arg Asp Val Val Asp Thr His Pro Phe Ile Ser Met Asp Thr Glu Phe
        35   40   45
Pro Gly Val Val Phe Arg Pro Pro Pro Pro Pro Ser Ala Gly Gly His
    50   55   60
Tyr Arg Arg Leu Arg Pro Ser Asp His Tyr Arg Leu Leu Lys Ser Asn
65   70   75   80
Val Asp Ala Leu Ser Leu Ile Gln Val Gly Leu Thr Phe Ser Asp Pro
                85   90   95
Asp Gly Asn Leu Pro Asp Leu Gly Cys Pro Gly Gly Pro Arg Tyr Ile
            100   105   110
Trp Glu Phe Asn Phe Arg Asp Phe Asp Val Ala Arg Asp Ala His Ala
        115   120   125
Pro Asp Ser Ile Glu Leu Leu Arg Arg Gln Gly Ile Asp Phe Glu Arg
    130   135   140
Asn Arg Ala Glu
145

<210> 788
<211> 248
<212> PRT
<213> Eucalyptus grandis

<400> 788

Lys Pro Ser Glu Arg Arg Gly Gly Pro Arg Gly Pro Phe Arg Gly Ser
1   5   10   15
Gly Gly Arg Arg Gly Gly Phe Asn Asn Gly Glu Ala Gly Glu Gly Glu
            20   25   30
Arg Pro Arg Arg Thr Phe Glu Arg Arg Ser Gly Thr Gly Arg Gly Asn
        35   40   45
Glu Phe Lys Arg Asp Gly Ala Gly Arg Gly Asn Trp Gly Thr Pro Thr
    50   55   60
Asp Glu Ile Ala Pro Glu Pro Glu Glu Pro Val Val Glu Val Glu Lys
65   70   75   80
Asn Val Gly Ser Glu Lys Gln Leu Val Asp Glu Glu Ala Ala Asp Ala
                85   90   95
Ser Lys Glu Asn Pro Leu Asn Glu Pro Glu Glu Lys Glu Pro Glu Asp
            100   105   110
Lys Glu Met Thr Leu Glu Glu Tyr Glu Lys Val Arg Glu Glu Lys Arg
        115   120   125
Lys Ala Leu Leu Ala Leu Lys Ala Glu Glu Arg Lys Val Glu Val Asp
    130   135   140
Lys Glu Leu Lys Ser Met Gln Gln Leu Ser Ser Lys Lys Glu Asn His
145   150   155   160
Asp Ile Phe Ile Lys Leu Gly Ser Glu Lys Asp Lys Arg Lys Glu Ala
                165   170   175
Ala Glu Lys Glu Glu Arg Ala Glu Lys Ser Val Ser Ile Asn Glu Phe
            180   185   190
Leu Lys Pro Ala Glu Gly Glu Arg Tyr Tyr Asn Pro Gly Gly Arg Gly
        195   200   205
Arg Gly Arg Gly Arg Gly Ala Arg Gly Gly Tyr Gly Gly Gly Gly Gly
    210   215   220
Gly Gly Tyr Gly Arg Asp Ala Ala Ala Pro Ser Ile Lys Asp Pro Gly
225   230   235   240
Gln Phe Pro Ser Leu Gly Gly Lys
                245

<210> 789
<211> 55
<212> PRT
<213> Eucalyptus grandis

<400> 789

Met Ser Phe Thr Gly Thr Gln Val Lys Cys Lys Ala Cys Glu Lys Thr
1   5   10   15
Val Tyr Pro Val Glu Gln Leu Ser Ala Asp Gly Val Ala Tyr His Lys
            20   25   30
Ser Cys Phe Lys Cys Ser His Cys Lys Gly Thr Leu Lys Val Cys Gln
        35   40   45
Phe Phe Gln Leu Val Tyr Asn
    50   55

<210> 790
<211> 148
<212> PRT
<213> Eucalyptus grandis

<400> 790

Met Ile Asp Leu Asn Thr Val Glu Asp Asp Glu Thr Pro Ser Ser Gly
1   5   10   15

Ser Ser Pro Ala Ser Ser Leu Ser Ser Ala Ile Ser Ala Ser Asn Ile
20 25 30
Asn Ser Asn Pro Ala Tyr Pro Thr Ser Ser Ser Ser Ser Ser Ser Ser
35 40 45
Cys Ser Pro Leu Cys Leu Glu Leu Trp His Ala Cys Ala Gly Pro Leu
50 55 60
Ile Ser Leu Pro Lys Arg Gly Ser Leu Val Val Tyr Phe Pro Gln Gly
65 70 75 80
His Leu Glu His Val Ser Asp Phe Pro Thr Ser Val Phe Asp Leu Pro
85 90 95
Ser Gln Ile Phe Cys Arg Val Val Asp Val Lys Leu His Ala Asp Ala
100 105 110
Ser Thr Asp Asp Val Tyr Ala Gln Val Ser Leu Val Pro Glu Arg Glu
115 120 125
Gln Ile Glu His Lys Leu Arg Glu Gly Asp Asn Glu Ile Asp Leu Asp
130 135 140
Glu Asp Glu Ile
145

<210> 791
<211> 106
<212> PRT
<213> Eucalyptus grandis

<400> 791
Met Ala Ser His Pro Ser Asn His Ser Cys Gly Arg Pro His Gln Gly
1 5 10 15
Ala Phe Ala Asp Ala Leu Tyr Lys Glu Leu Trp His Ala Cys Ala Gly
20 25 30
Pro Leu Val Thr Leu Pro Arg Glu Gly Glu Arg Val Tyr Tyr Phe Pro
35 40 45
Gln Gly His Met Glu Gln Leu Glu Ala Ser Thr Asn Arg Gly Leu Glu
50 55 60
Gln Gln Met Pro Ser Phe Asp Leu Pro Ser Lys Ile Leu Cys Arg Val
65 70 75 80
Val Asn Ile Gln Leu Arg Ala Glu Pro Glu Thr Asp Glu Val Tyr Ser
85 90 95
Gln Ile Thr Leu Leu Pro Glu Pro Glu Gln
100 105

<210> 792
<211> 82
<212> PRT
<213> Eucalyptus grandis

<400> 792
Glu Gln Tyr Leu Asn Leu Ala Tyr Val Gln Gln Leu Glu Asn Ser Arg
1 5 10 15
Phe Arg Leu Met Gln Leu Glu Gln Glu Leu Gln Arg Ala Arg Gln Gln
20 25 30
Gly Ile Phe Val Ser Ser Gly Asn Pro Gly Asp Leu Ser His Asn Met
35 40 45
Ala Ala Ile Gly Asn Gly Ala Met Ala Phe Asp Thr Asp Tyr Ala Arg
50 55 60
Trp Leu Asp Glu His Gln Arg Leu Ile Asn Asp Leu Arg Ser Gly Val
65 70 75 80
Asn Phe

<210> 793
<211> 247
<212> PRT
<213> Eucalyptus grandis

<400> 793

```
Phe Phe Leu Tyr Ile Ile Ser Leu Phe Leu Val Arg Glu Asn Ser Glu
 1               5                  10                  15
Arg Ser Arg Glu Gly Thr Ser Ser Asn Gly Asp Gly Lys Ser Glu Val
            20                  25                  30
Gln Gly Lys Val Ala Gly Glu Val Asp Ala Ala Ser Glu Asn Val Ser
        35                  40                  45
Gly Gly Ala Ile Glu Arg Pro Arg Ala Thr Gly Lys Leu Ala Ala Pro
    50                  55                  60
Val Asn Ser Pro Ser Met Ser Ser Ser Leu Asp Leu Lys Asn Ser Cys
65                  70                  75                  80
Met Asp Ala Asn Ala Asn Pro Val Ser Ile Leu Gln Pro Gly Val Val
                85                  90                  95
Pro Pro Glu Ala Trp Leu Gln Asn Glu Arg Glu Leu Lys Arg Glu Arg
            100                 105                 110
Arg Lys Gln Ser Asn Arg Glu Ser Ala Arg Arg Ser Arg Leu Arg Lys
        115                 120                 125
Gln Ala Glu Thr Glu Glu Leu Ala Lys Lys Val Asp Ser Leu Ser Ala
    130                 135                 140
Glu Asn Arg Ala Leu Lys Ser Glu Ile Ser Gln Leu Thr Glu Asn Ser
145                 150                 155                 160
Asp Lys Leu Arg Leu Glu Asn Ala Thr Leu Met Glu Arg Leu Glu Asn
                165                 170                 175
Ala Gln Gly Val Glu Lys Ala Val Glu Ser Leu Gly Lys Phe Asn Asp
            180                 185                 190
Asn Gly Leu Leu Ser Asp Lys Thr Glu Asn Leu Leu Ser Arg Val Asn
        195                 200                 205
Asn Ser Gly Ala Val Asp Arg Arg Ser Glu Asp Glu Gly Glu Ile Tyr
    210                 215                 220
Glu Arg Lys Ser Asn Ser Gly Ala Lys Leu His Gln Leu Leu Asp Ser
225                 230                 235                 240
Lys Pro Arg Thr Asp Ala Val
                245
```

<210> 794
<211> 145
<212> PRT
<213> Eucalyptus grandis

<400> 794

```
Phe Ser Leu Ser Pro His His Leu Lys Met Glu Val Ala Pro Gln Ala
 1               5                  10                  15
Glu His His Gln Asn His His His His His His Gln Tyr His His Gln
            20                  25                  30
Pro Gln Gln Gly Glu Pro Gly Ser Tyr Phe Leu Ser Ala Pro Pro Pro
        35                  40                  45
Pro Pro His Tyr Ser Ser Ser Gly Leu Cys Tyr Gly Gly Gly Val Gly
    50                  55                  60
Asp Asn Asn Asn Gly Gly Tyr Leu His Ser Pro Leu Ser Val Met Pro
65                  70                  75                  80
```

Leu Lys Ser Asp Gly Ser Leu Cys Ile Met Glu Ala Leu Thr Arg Ser
                85   90   95
Arg Pro Gln Gly Leu Gly Gln Gly Ser Thr Pro Lys Leu Glu Asp Phe
            100   105   110
Leu Gly Gly Ala Ser Ala Thr Val Thr Ala Thr Thr Met Pro Leu Ser
        115   120   125
Leu Asp Ser Leu Tyr Ser Tyr Gln Gln Ser Ala Asp Pro Glu Lys Gln
    130   135   140
Ser
145

<210> 795
<211> 220
<212> PRT
<213> Eucalyptus grandis

<400> 795
Glu Thr Gln Arg Glu Lys Val Glu Arg Glu Arg Glu Thr Ser Ile Pro
1   5   10   15
Ser Gln Ser Pro Gln Pro Thr Ile Leu Pro Pro Thr Ala Ser Ser Pro
            20   25   30
Gly Arg Ser Asp Pro Pro Gly Asp Ala Thr Thr Met Val Lys Pro Ser
        35   40   45
Gly Gly Gly Gly Asp Arg Ala Pro Pro Leu Ala Pro Phe Leu Ser Lys
    50   55   60
Cys Tyr Glu Met Val Glu Asp Glu Ala Thr Asp Pro Ile Ile Ala Trp
65   70   75   80
Gly Ser Ala Gly Asp Thr Phe Val Ile Trp Asp Ile Thr Gln Phe Thr
                85   90   95
Leu Gln Leu Leu Pro His Tyr Phe Lys His Ser Asn Phe Ser Ser Phe
            100   105   110
Met Arg Gln Leu Asn Ile Tyr Gly Phe Arg Lys Val Asp Ser Asp Arg
        115   120   125
Trp Glu Phe Ala Asn Asp Gly Phe Ile Arg Gly Gln Lys His Met Leu
    130   135   140
Lys Asn Ile Arg Arg Arg Lys Asn Val Gln Val Val Asp Gln Lys Lys
145   150   155   160
Ser Leu Gln Lys Gln Asp Asn Ser Val Glu Glu Val Asp Lys Ile Lys
                165   170   175
Ile Asp Gly Leu Trp Lys Glu Val Glu Asn Leu Lys Ile Asp Lys Thr
            180   185   190
Val Leu Ser Leu Glu Leu Gly Lys Val Arg Gln Leu Gln Glu Thr Ser
        195   200   205
Asp Asn Lys Leu Val Leu Leu Arg Asp Arg Val Gln
    210   215   220

<210> 796
<211> 212
<212> PRT
<213> Eucalyptus grandis

<400> 796
Met Ile Gly Ala Ala Thr Asn Gln Ile Pro Pro Pro Pro Pro Pro Pro
1   5   10   15
Gln Pro Gln Gln Ala Ala Pro Ala Ala Ala Ala Ile Arg Phe Pro Asp
            20   25   30
Ser Val Tyr Asn Ala Leu Arg Val Gly Ala Val Phe Gln Arg Leu Ser

```
        35                  40                  45
Lys His Leu Ala Thr Ile Gly Lys Gly Ser Gly Leu Ser Ala Ser Cys
    50                  55                  60
Gly Thr Ser Met Glu Phe Leu Asn Ser Cys Leu Cys Leu Ala Arg Gly
65                  70                  75                  80
Ile Asp Tyr Ala Val Ala Asn Asn Glu Val Leu Pro Lys Ala His Glu
                85                  90                  95
Leu Pro Val Leu Leu Lys Arg Leu Cys Leu Leu Lys Asp Asp Ser Phe
            100                 105                 110
Tyr Leu Ser Val Ile Met Val Leu Met Ile Ser Val Lys Asn Ala Cys
        115                 120                 125
Lys Tyr Lys Trp Phe Ser Glu Lys Asp Cys Gln Glu Leu Leu Ala Leu
    130                 135                 140
Val Asp Glu Ile Gly Lys Asn Phe Gln Ser Pro Arg Asp Ala Ala Val
145                 150                 155                 160
Gly Ser Thr Ala Ser Phe Ser Arg Val Ser Ser Ile Phe Ala Arg Phe
                165                 170                 175
Tyr Pro Gln Leu Lys Met Gly Tyr Asp Leu Ile Ser Leu Glu Val Glu
            180                 185                 190
Pro Gly Tyr Ala Ala Leu Val Asn Asp Phe His Ile Ser Lys Ser Met
        195                 200                 205
Val His Ser Pro
    210
```

<210> 797
<211> 269
<212> PRT
<213> Eucalyptus grandis

<400> 797

```
Met Asn Ser Thr Thr Thr Gln Phe Val Ser Ser Arg Arg Met Gly Met
 1               5                  10                  15
Tyr Asp Pro Ile His Gln Ile Gly Met Trp Asp Glu Asn Phe Lys Gln
            20                  25                  30
Asn Gly Asn Pro Asn Ala Pro Pro Ala Leu Ile Ile Pro Met His Ala
        35                  40                  45
Asn Leu Asp Asn Gln Ser Glu Asp Thr Ser His Gly Ser Gln Asp Thr
    50                  55                  60
Ala Gly Lys Tyr Glu Gln Glu Thr Ser Lys Pro Tyr Asp Lys Val Gln
65                  70                  75                  80
Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser Arg Leu Arg
                85                  90                  95
Lys Lys Ala Tyr Val Gln Gln Leu Glu Ala Ser Arg Leu Lys Leu Met
            100                 105                 110
Gln Leu Glu Gln Glu Val Asp Arg Ala Arg Gln Gln Gly Val Tyr Met
        115                 120                 125
Ala Ser Gly Val Asp Ser Ala Tyr Pro Gly Tyr Gly Gly Cys Leu Asn
    130                 135                 140
Ser Gly Ile Val Ala Phe Glu Met Glu Tyr Gly His Trp Ile Asp Glu
145                 150                 155                 160
Gln Asn Arg Gln Ile Cys Glu Leu Arg Ala Ala Leu Asn Asp His Arg
                165                 170                 175
Thr Asp Val Glu Leu Arg Ile Leu Val Glu Ser Gly Met Asn His Tyr
            180                 185                 190
Leu Glu Leu Phe Arg Met Lys Ala Val Ala Ser Lys Ala Asp Val Phe
        195                 200                 205
Tyr Val Met Ser Gly Met Trp Arg Thr Ser Ser Glu Arg Phe Phe Leu
```

210 215 220
Trp Ile Gly Gly Phe Arg Pro Ser Glu Leu Leu Lys Val Leu Met Pro
225 230 235 240
Gln Leu Asp Pro Leu Ser Asp Gln Gln Trp Ala Phe Val Ser Asn Leu
245 250 255
Arg Gln Ala Cys Gln Gln Ala Glu Asp Ala Leu Lys Gln
260 265

<210> 798
<211> 145
<212> PRT
<213> Eucalyptus grandis

<400> 798
Ile Asn Thr Thr Pro Gln Phe Leu Ser Leu Arg Ser His Pro Asn Arg
1 5 10 15
His Pro Gln Ser Leu Ser Phe Ser Leu Phe Phe Ser Val Cys Pro Val
20 25 30
Cys Asp Lys Gly Phe Pro Ser Tyr Gln Ala Leu Gly Gly His Lys Ala
35 40 45
Ser His Arg Lys His Ala Ser Ser Ala Ala Ala Ala Ala Gly Gly Asp
50 55 60
Asp Gln Pro Thr Thr Ser Ser Thr Ser Ala Ala Thr Thr Ser Ser Gly
65 70 75 80
Val Ser Gly Lys Val His Glu Cys Ser Ile Cys His Lys Ser Phe Pro
85 90 95
Thr Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Glu Ala Pro
100 105 110
Ala Pro Ile Pro Ala Ser Phe Ser Ala Pro Ser Ala Ala Ala Ala Pro
115 120 125
Ala Ala Ser Gly Val Ser Val Ser Glu Gly Val Gly Ser Thr His Thr
130 135 140
Gln
145

<210> 799
<211> 121
<212> PRT
<213> Eucalyptus grandis

<400> 799
Arg His His Lys Ile Gln Gln Leu Gln Arg Ala Arg Ser Glu Leu Ala
1 5 10 15
Arg Met Phe Ser Leu Glu Gly Gln Leu Glu Asp Pro Val Arg Ser Gly
20 25 30
Trp Gln Leu Val Phe Val Asp Arg Glu Asn Asp Ser Leu Leu Leu Gly
35 40 45
Asp Gly Pro Trp Pro Glu Phe Val Asn Ser Val Trp Cys Ile Lys Ile
50 55 60
Leu Ser Pro Gln Glu Val Gln Gln Met Gly Lys Gln Asp Leu Glu Leu
65 70 75 80
Leu Asn Ser Ile Pro Val Gln Arg His Ser Asn Gly Gly Cys Asp Glu
85 90 95
Phe Thr Asn Arg Gln Asp Ser Arg Thr Ile Asn Ser Gly Ile Pro Ser
100 105 110
Val Gly Ser Leu Asp Tyr Gly Thr Leu
115 120

<210> 800
<211> 182
<212> PRT
<213> Eucalyptus grandis

<400> 800
Thr Asp Asp Thr Gly Asp Lys Asn His Arg Phe Glu Gly Gly Gln Leu
1 5 10 15
Gly Val Ala Ala Ala Ser Asp Ser Ser Asp Arg Ser Lys Glu Lys Ala
20 25 30
Thr Asp Gln Lys Thr Leu Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala
35 40 45
Arg Lys Ser Arg Leu Arg Lys Lys Ala Tyr Val Gln Gln Leu Glu Ser
50 55 60
Ser Arg Leu Lys Leu Thr Gln Leu Glu Gln Glu Leu Gln Arg Ala Arg
65 70 75 80
Gln Gln Gly Ile Phe Ile Ser Gly Ser Gly Glu Gln Ser His Ser Met
85 90 95
Ser Gly Asn Gly Ala Leu Ala Phe Asp Val Glu Tyr Ala Arg Trp Leu
100 105 110
Glu Glu His Asn Lys Val Val Asn Glu Leu Arg Asn Ala Val Asn Ala
115 120 125
His Ala Gly Asp Thr Glu Leu Arg Thr Ile Val Asp Asn Val Ala Ala
130 135 140
His Phe Asp Glu Ile Phe Lys Leu Lys Gly Thr Ala Ala Lys Ala Asp
145 150 155 160
Val Phe His Ile Leu Ser Gly Met Trp Lys Thr Pro Ala Glu Arg Cys
165 170 175
Phe Met Trp Ile Gly Gly
180

<210> 801
<211> 74
<212> PRT
<213> Eucalyptus grandis

<400> 801
Met Ser Phe Thr Gly Thr Gln Val Lys Cys Lys Ala Cys Glu Lys Thr
1 5 10 15
Val Tyr Pro Val Glu Gln Leu Ser Ala Asp Gly Val Ala Tyr His Lys
20 25 30
Ser Cys Phe Lys Cys Ser His Cys Lys Gly Thr Leu Lys Leu Ser Ser
35 40 45
Tyr Ser Ser Met Glu Gly Val Leu Tyr Cys Lys Pro His Phe Glu Gln
50 55 60
Leu Phe Lys Glu Thr Gly Asn Phe Asn Lys
65 70

<210> 802
<211> 194
<212> PRT
<213> Eucalyptus grandis

<400> 802
Lys Ser Val Phe His Val Phe Tyr Ser Pro Arg Ala Ser His Ala Glu
1 5 10 15

Phe Val Val Pro Tyr Gln Lys Tyr Leu Lys Ser Ile Asn Asn Val Ile
20 25 30
Cys Ile Gly Thr Arg Phe Lys Met Arg Val Asp Val Asp Asp Ala Pro
35 40 45
Glu Lys Arg Cys Thr Gly Val Val Thr Arg Ile Gly Asp Leu Asp Pro
50 55 60
Tyr Arg Trp Pro Asn Ser Lys Trp Arg Cys Leu Met Val Gln Trp Asp
65 70 75 80
Asp Asp Ile Thr Asn Gly His Gln Asp Arg Val Ser Pro Trp Glu Ile
85 90 95
Asp Pro Ser Val Ser His Ser Pro Leu Ser Ile Gln Ser Ser Pro Arg
100 105 110
Leu Lys Arg Pro Arg Thr Ser Leu Pro Thr Met Pro Pro Val Pro Gly
115 120 125
Gly Gly Val Arg Leu Leu Asp Phe Glu Glu Ser Leu Arg Ser Ser Lys
130 135 140
Val Leu Gln Gly Gln Glu Lys Leu His Leu Val Ser Pro Val Tyr Gly
145 150 155 160
Arg Asp Thr Leu Asn Cys Gln Val Asp Phe Glu Gln Ser Pro Ala His
165 170 175
Gln Gly Leu Ala Ser Val Val Ser Lys Lys Arg Pro Thr Ile Ser Met
180 185 190
Ser Thr

<210> 803
<211> 282
<212> PRT
<213> Eucalyptus grandis

<400> 803
Arg Arg Ala Asn Arg Pro Gln Thr Val Met Pro Ser Ser Val Leu Ser
1 5 10 15
Ser Asp Ser Met His Ile Gly Leu Leu Ala Ala Ala Ala His Ala Ala
20 25 30
Ala Thr Asn Ser Arg Phe Thr Ile Phe Tyr Asn Pro Arg Ala Ser Pro
35 40 45
Ser Glu Phe Val Ile Pro Leu Ala Lys Tyr Val Lys Ala Val Tyr His
50 55 60
Thr Arg Val Ser Val Gly Met Arg Phe Arg Met Leu Phe Glu Thr Glu
65 70 75 80
Glu Ser Ser Val Arg Arg Tyr Met Gly Thr Ile Thr Gly Ile Ser Asp
85 90 95
Leu Asp Pro Val Arg Trp Gln Asn Ser His Trp Arg Ser Val Lys Val
100 105 110
Gly Trp Asp Glu Ser Thr Ala Gly Glu Arg Gln Pro Arg Val Ser Leu
115 120 125
Trp Glu Ile Glu Pro Leu Thr Thr Phe Pro Met Tyr Pro Ser Pro Phe
130 135 140
Pro Leu Arg Leu Lys Arg Pro Trp Pro Ser Gly Leu Pro Ser Phe His
145 150 155 160
Ala Leu Arg Asp Gly Asp Met Ser Ile Ser Ser Ser Leu Met Trp Leu
165 170 175
Gln Gly Val Gly Asp Gln Gly Val Gln Ser Leu Asn Phe Gln Gly Phe
180 185 190
Gly Met Thr Pro Trp Leu Gln Pro Arg Tyr Asp Thr Ser Met Ala Ala
195 200 205

Leu Gln Thr Asp Val Tyr Gln Ala Met Ala Ser Ala Ala Leu Gln Asp
210 215 220
Met Arg Ala Val Asp Pro Ser Lys Cys Ala Ser Gln Ser Leu Leu Pro
225 230 235 240
Leu Gln Gln Ser Gln Asn Val Pro Met Gly Gln Ala Ser Ile Ile Gln
245 250 255
Arg Gln Met Leu Gln Gln Ser Gln Ser Gln Asn Ser Leu Leu Gln Gly
260 265 270
Phe Gln Glu Asn Gln Ala Lys Pro Lys Gly
275 280

<210> 804
<211> 177
<212> PRT
<213> Eucalyptus grandis

<400> 804
Asp Lys Leu Arg Glu Ile Glu Asn Ser Leu Phe Gly Pro Glu Ser Asp
1 5 10 15
Ile Ser Asp Ser Cys Asn Cys Cys Leu Asn Ser Gly Ser His Gln Phe
20 25 30
Pro Ser Thr Gly Gln Trp Asn Val Asn Gln Met Ile Glu Met Ile Pro
35 40 45
Lys Leu Asp Leu Lys Asp Met Leu Ile Val Cys Ala Gln Ala Val Ala
50 55 60
Glu Ala Asp Met Pro Arg Thr Ala Ala Leu Met Glu Val Leu Glu Arg
65 70 75 80
Met Val Ser Val Ser Gly Asp Pro Ile Gln Arg Leu Gly Ala Tyr Leu
85 90 95
Leu Glu Gly Leu Arg Ala Arg Leu Glu Ser Ser Gly Ser Ile Ile Tyr
100 105 110
Arg Lys Leu Lys Cys Lys Glu Pro Thr Gly Ser Glu Leu Met Ser Tyr
115 120 125
Met Ser Ile Leu Tyr Gln Ile Cys Pro Tyr Trp Lys Phe Ala Tyr Glu
130 135 140
Ser Ala Asn Val Val Ile Gly Glu Ala Ile Lys Tyr Glu Ser Arg Ile
145 150 155 160
His Ile Ile Asp Phe Gln Ile Ala Gln Gly Ser Gln Trp Ile Pro Ile
165 170 175
Ile

<210> 805
<211> 86
<212> PRT
<213> Eucalyptus grandis

<400> 805
Met Gly Arg Ser Pro Arg Cys Asp Lys Asp Gly Leu Asn Lys Gly Ala
1 5 10 15
Trp Thr Ala Ala Glu Asp Gln Ile Leu Met Asp Tyr Val Lys Leu His
20 25 30
Gly Glu Gly Lys Trp Ser Arg Leu Ser Arg Glu Thr Gly Leu Arg Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr Leu Arg Pro Asp
50 55 60
Ile Lys Arg Gly Asn Ile Ser Pro Asp Glu Glu Glu Leu Ile Ile Arg

65 70 75 80
Leu His Lys Leu Leu Gly
85

<210> 806
<211> 133
<212> PRT
<213> Eucalyptus grandis

<400> 806
Met Arg Leu Ser Ser Ser Gly Phe Asn His Gln Ser Pro Glu Ala Ser
1 5 10 15
Asn Ala Gly Glu Lys Lys Cys Leu Asn Ser Glu Leu Trp His Ala Cys
20 25 30
Ala Gly Pro Leu Val Ser Leu Pro Pro Val Gly Ser Arg Val Val Tyr
35 40 45
Phe Pro Gln Gly His Ser Glu Gln Val Ala Ala Ser Thr Asn Lys Glu
50 55 60
Val Asp Ala His Ile Pro Asn Tyr Pro Asn Leu Ser Pro Gln Leu Ile
65 70 75 80
Cys Gln Leu His Asn Val Thr Met His Ala Asp Val Glu Thr Asp Glu
85 90 95
Val Tyr Ala Gln Met Thr Leu Gln Pro Leu Ser Pro Gln Glu Gln Lys
100 105 110
Asp Leu Tyr Leu Leu Pro Ala Glu Leu Gly Thr Pro Ser Lys Gln Pro
115 120 125
Thr Asn Tyr Phe Cys
130

<210> 807
<211> 222
<212> PRT
<213> Eucalyptus grandis

<400> 807
Ser Pro Phe Leu Ser Leu Thr Thr Ser Ser Ser Ser Ser Pro Pro Arg
1 5 10 15
Arg Lys Ile Arg Thr Leu Gly Arg Ala Ala Asn Arg Arg Asn Pro Ser
20 25 30
Pro Ala Glu Val Ala Ala Ala Ala Val His Ala Tyr Leu Ser Arg Arg
35 40 45
Arg Pro Ala Glu Arg Ile Leu Leu Arg Ser Gly Pro Met Ser Pro Ala
50 55 60
Arg Ser Lys Pro Ile Ala Ile Arg Ala Val Phe Tyr Ala Asn Leu Glu
65 70 75 80
Ser Glu Phe Ala Leu Ile Arg Ser Val Val Asp Arg Phe Pro Ile Ile
85 90 95
Ser Met Asp Thr Glu Phe Pro Gly Thr Val Ile Arg Pro Gly Pro Ala
100 105 110
Gly Gly Gly Gly Gly Arg Ala Leu Pro Pro Pro Glu Ser Asn Tyr Gly
115 120 125
Leu Leu Lys Ala Asn Val Asp Arg Met His Met Ile Gln Ile Gly Leu
130 135 140
Thr Leu Ser Asp Gly Glu Gly Asn Leu Pro Asp Phe Gly Thr Lys Cys
145 150 155 160
Ala Tyr Ile Trp Glu Phe Asn Phe Arg Asp Phe Asp Ala Ala Arg Asp
165 170 175

Val Gln Asn Pro Asp Ser Val Ala Leu Leu Arg Lys Gln Gly Ile Asp
180 185 190
Phe Glu Met Asn Arg Gln Lys Gly Ala Asp Ser Ala Arg Phe Gly Glu
195 200 205
Leu Leu Met Ser Ser Gly Leu Val Cys Asn Asp Glu Val Ser
210 215 220

<210> 808
<211> 111
<212> PRT
<213> Eucalyptus grandis

<400> 808
Arg Gly Gly Phe Asn Met Glu Lys Leu Ala Arg Gly Ser Val Gln Glu
1 5 10 15
Glu His Leu Asn Ala Ala Val Ala Leu Asp Glu Gly Trp Tyr Cys Thr
20 25 30
Pro Arg Met Leu His Phe Ser Phe Glu Asn Glu Phe Lys Arg Asp Gly
35 40 45
Ala Gly Arg Gly Asn Trp Gly Thr Pro Thr Asp Glu Ile Ala Pro Glu
50 55 60
Pro Glu Glu Pro Val Val Glu Val Glu Lys Asn Val Gly Ser Glu Lys
65 70 75 80
Gln Leu Val Asp Glu Glu Ala Ala Asp Ala Ser Lys Glu Asn Pro Leu
85 90 95
Asn Glu Pro Glu Glu Lys Glu Pro Glu Asp Lys Glu Met Thr Leu
100 105 110

<210> 809
<211> 159
<212> PRT
<213> Eucalyptus grandis

<400> 809
Gln Ser Gly Leu Pro Leu Asp Asp Arg Pro Glu Gly Ala Arg Ser Pro
1 5 10 15
Ser Pro Glu Pro Ile Tyr Asp Asn Met Gly Ile Arg Ile Asn Thr Arg
20 25 30
Glu Tyr Arg Ala Arg Glu Arg Leu Asn Lys Glu Arg Gln Asp Ile Ile
35 40 45
Thr Gln Ile Ile Lys Arg Asn Pro Ala Phe Lys Pro Pro Ala Asp Tyr
50 55 60
Arg Pro Pro Lys Leu Gln Lys Lys Leu Tyr Ile Pro Met Lys Glu Tyr
65 70 75 80
Pro Gly Tyr Asn Phe Ile Gly Leu Ile Ile Gly Pro Arg Gly Asn Thr
85 90 95
Gln Lys Arg Met Glu Arg Glu Thr Gly Ala Lys Ile Val Ile Arg Gly
100 105 110
Lys Gly Ser Val Lys Glu Gly Arg Leu Gln Gln Lys Arg Asp Leu Lys
115 120 125
Pro Asp Pro Ala Glu Asn Glu Asp Leu His Val Leu Val Glu Ala Glu
130 135 140
Thr Gln Glu Ala Leu Asp Ala Ala Ala Gly Met Val Glu Lys Leu
145 150 155

<210> 810
<211> 387

<212> PRT
<213> Eucalyptus grandis

<400> 810
Met Cys Gly Gly Ala Ile Ile Ser Asp Phe Ile Pro Asn Gln Arg Ala
1 5 10 15
Arg Arg Leu Thr Ser Asp Phe Leu Trp Pro Asp Leu Lys Arg Ser Ala
20 25 30
Gly Lys Gln Ser Arg Arg Pro Ala Arg Ser Glu Val Val Asp Val Val
35 40 45
Asp Asp Asp Phe Glu Ala Asp Phe Gln Gly Phe Lys Asp Glu Ser Asp
50 55 60
Val Glu Asp Asp Phe Asp Asp Glu Val Glu Val Asp Val Lys Pro Phe
65 70 75 80
Ala Phe Ser Ala Ala Glu Pro Arg Tyr Ser Lys Gly Ser Ser Thr Thr
85 90 95
Lys Ser Val Glu Tyr Asn Gly Gln Ala Glu Lys Ser Ala Lys Arg Lys
100 105 110
Arg Lys Asn Gln Tyr Arg Gly Ile Arg Gln Arg Pro Trp Gly Lys Trp
115 120 125
Ala Ala Glu Ile Arg Asp Pro Arg Lys Gly Val Arg Val Trp Leu Gly
130 135 140
Thr Phe Asn Thr Ala Glu Glu Ala Ala Arg Ala Tyr Asp Ala Glu Ala
145 150 155 160
Arg Arg Ile Arg Gly Lys Lys Ala Lys Val Asn Phe Pro Asp Asp Ser
165 170 175
Ser Ser Ala Ser Ser Lys Arg Ser Val Lys Ser Asn Val Gln Lys Leu
180 185 190
Pro Lys Thr Thr Thr Asn Asn Val Gln Pro Asn Leu Asn Gln Asn Phe
195 200 205
Asn Tyr Ala Asn Ser Ser Asp Asp Asp Ile Tyr Ser Ser Met Gly Phe
210 215 220
Val Glu Glu Lys Pro Pro Thr Asn Gln Phe Tyr Met Asp Ala Leu Asn
225 230 235 240
Ala Gln Gly Val Ser Gly Met Asn Ser Leu Ser Pro Ala Asp Asn Ala
245 250 255
Pro Leu Tyr Phe Asn Ser Asp Gln Gly Ser Asn Ser Phe Glu Cys Ser
260 265 270
Asp Phe Gly Trp Gly Glu Asn Ala Pro Arg Thr Pro Asp Val Ser Ser
275 280 285
Val Leu Ser Ala Thr Leu Glu Val Asp Glu Ser Gln Phe Glu Asp Ala
290 295 300
Asn Pro Arg Lys Lys Ile Arg Ser Ala Ser Asp Asp Val Ser Glu Glu
305 310 315 320
Glu Asn Thr Ala Ala Lys Thr Phe Ser Glu Glu Leu Ser Ala Phe Glu
325 330 335
Ser Asp Met Lys Phe Phe Gln Met Pro Phe Val Asp Gly Gly Trp Asp
340 345 350
Pro Ser Val Glu Ala Leu Leu Gly Gly Glu Ala Thr Gln Asp Gly Gly
355 360 365
Asn Ala Val Asp Leu Trp Ser Phe Asp Asp Leu Ala Pro Met Met Gly
370 375 380
Gly Val Phe
385

<210> 811
<211> 219

<212> PRT
<213> Eucalyptus grandis

<400> 811
His Gly Gly Ala Ala Gly Phe Leu Gly Pro Arg Ala Val Pro Met Lys
1   5   10   15
Gln Ala Gly Leu Ala Gln Lys Pro Thr Lys Leu Tyr Arg Gly Val Arg
            20   25   30
Gln Arg His Trp Gly Lys Trp Val Ala Glu Ile Arg Leu Pro Lys Asn
        35   40   45
Arg Thr Arg Leu Trp Leu Gly Thr Phe Asp Thr Ala Glu Glu Ala Ala
    50   55   60
Leu Ala Tyr Asp Lys Ala Ala Tyr Arg Leu Arg Gly Asp Phe Ala Arg
65   70   75   80
Leu Asn Phe Pro His Leu Lys His Lys Gly Ser His Ile Gln Gly Asp
                85   90   95
Phe Gly Asp Tyr Lys Pro Leu His Ser Ser Val Asp Ala Lys Leu Gln
            100   105   110
Ala Ile Cys Gln Asp Met Ala Glu Lys Pro Ala Asp Gly Lys Lys Arg
        115   120   125
Arg Ser Ala Pro Ala Gly Gly Gly Ser Ser Ala Ala Ala Ala Ser Pro
    130   135   140
Arg Arg Pro Glu Pro Glu Pro Glu Pro Val Lys Thr Glu Val Gly Val
145   150   155   160
Ser Ala Ala Thr Ser Ser Ser Pro Glu Ser Asp Asp Ala Ser Val Glu
                165   170   175
Glu Ser Ser Pro Leu Ser Glu Leu Thr Phe Asn Asp Phe Val Glu Pro
            180   185   190
Gln Trp Glu Ser Val Gly Val Pro Glu Asn Phe Ser Leu Gln Lys Tyr
        195   200   205
Pro Ser Glu Ile Asp Trp Ala Ala Ile Tyr Ser
    210   215

<210> 812
<211> 75
<212> PRT
<213> Eucalyptus grandis

<400> 812
Met Lys Glu Arg Gln Arg Trp Arg Ala Glu Glu Asp Ala Leu Leu Arg
1   5   10   15
Ala Tyr Val Lys Gln Tyr Gly Pro Arg Glu Trp His Leu Val Ser Gln
            20   25   30
Arg Met Asn Thr Pro Leu Asn Arg Asp Ala Lys Ser Cys Leu Glu Arg
        35   40   45
Trp Lys Asn Tyr Leu Lys Pro Gly Ile Lys Lys Gly Ser Leu Ser Glu
    50   55   60
Glu Glu Gln Arg Leu Val Phe His Leu Leu Pro
65   70   75

<210> 813
<211> 235
<212> PRT
<213> Eucalyptus grandis

<400> 813
Val Val Leu Pro Ser Ser Gly Met Val Lys Ser Ser Gly Gly Ala Gly

1 5 10 15
Asp Ser Asp His Ser Asp Leu Glu Ala Ser Val Val Lys Glu Ala Asp
20 25 30
Ser Ser Arg Val Val Glu Pro Glu Lys Arg Pro Arg Lys Arg Gly Arg
35 40 45
Lys Pro Ala Asn Gly Arg Glu Glu Pro Leu Asn His Val Glu Ala Glu
50 55 60
Arg Gln Arg Arg Glu Lys Leu Asn Gln Arg Phe Tyr Ala Leu Arg Ala
65 70 75 80
Val Val Pro Asn Val Ser Lys Met Asp Lys Ala Ser Leu Leu Gly Asp
85 90 95
Ala Ile Ala Tyr Ile Lys Glu Leu Asn Ser Lys Leu Gln Thr Thr Glu
100 105 110
Ser Asp Lys Glu Asn Leu Gln Lys Gln Met Glu Ser Leu Lys Lys Glu
115 120 125
Leu Thr Asn Lys Asp Ser Arg Ser Ala Leu Pro Gln Ser Asp Lys Asp
130 135 140
Leu Ser Ile Ser Ser Asn His Gly Ala Lys Leu Ile Glu Leu Asp Val
145 150 155 160
Asp Val Lys Ile Ile Gly Trp Asp Val Met Ile Arg Ile Gln Ser Ser
165 170 175
Lys Lys Asn His Pro Ala Ala Lys Leu Met Gln Ala Leu Met Glu Leu
180 185 190
Asp Leu Asp Val His His Ala Ser Val Ser Val Val Asn Asp Leu Met
195 200 205
Ile Gln Gln Ala Thr Val Lys Met Ser Gly Arg Phe Tyr Ser Gln Glu
210 215 220
Gln Leu Arg Leu Ala Leu Ser Ser Lys Ile Gly
225 230 235

<210> 814
<211> 111
<212> PRT
<213> Eucalyptus grandis

<400> 814
Glu Leu Lys Pro Asp Lys Ile Gly Leu Gln Arg Ser Glu Gln Leu Arg
1 5 10 15
Asp Leu Tyr Glu Ser Leu Leu Glu Gly Glu Thr Asp Ala Gln Asn Lys
20 25 30
Arg Pro Ser Ala Ala Leu Ser Pro Glu Asp Leu Thr Asp Glu Glu Trp
35 40 45
Tyr Tyr Leu Val Cys Met Ser Phe Val Phe Asn Pro Gly Glu Gly Leu
50 55 60
Pro Gly Arg Ala Leu Ala Asp Gly Gln Thr Ile Trp Leu Cys Asn Ala
65 70 75 80
Gln Tyr Ala Asp Ser Lys Val Phe Ser Arg Ser Leu Leu Ala Lys Ser
85 90 95
Ala Ser Ile Gln Thr Val Val Cys Phe Pro Tyr Leu Gly Gly Val
100 105 110

<210> 815
<211> 107
<212> PRT
<213> Eucalyptus grandis

<400> 815

Met Glu Ser Glu Arg Tyr Asp Glu Thr Thr Glu Lys Gln Arg Ile Arg
1   5   10   15
Arg Arg Pro His Gln Lys Pro Tyr Arg Gly Ile Arg Met Arg Lys Trp
            20   25   30
Gly Lys Trp Val Ala Glu Ile Arg Glu Pro Asn Lys Arg Ser Arg Ile
        35   40   45
Trp Leu Gly Ser Tyr Ala Thr Ala Val Ala Ala Ala Arg Ala Tyr Asp
    50   55   60
Thr Ala Val Phe Tyr Leu Arg Gly Pro Ser Ala Arg Leu Asn Phe Pro
65   70   75   80
Asp Leu Ile Leu His Glu Gly Gln Asp Ser Leu Gly Glu Val Ser Ala
                85   90   95
Ala Ser Ile Arg Arg Arg Ala Ala Glu Val Gly
            100   105

<210> 816
<211> 89
<212> PRT
<213> Eucalyptus grandis

<400> 816
Met Ala Phe Thr Gly Thr Val Asp Lys Cys Lys Val Cys Asp Lys Thr
1   5   10   15
Val His Val Val Asp Met Met Thr Leu Glu Gly Ile Pro Tyr His Lys
            20   25   30
Thr Cys Phe Arg Cys Ser His Cys Asn Gly Thr Leu Val Met Ser Asn
        35   40   45
Tyr Ser Ser Met Asp Gly Val Leu Tyr Cys Lys Thr His Phe Glu Gln
    50   55   60
Leu Phe Lys Glu Ser Gly Asp Phe Arg Lys Asn Phe His Ser Ala Lys
65   70   75   80
Ser Asp Lys Pro Asn Glu Met Thr Arg
                85

<210> 817
<211> 96
<212> PRT
<213> Eucalyptus grandis

<400> 817
Met Glu Ser Glu Arg Tyr Asp Glu Thr Thr Glu Gly Gln Arg Ile Lys
1   5   10   15
Arg Arg Pro His Gln Gln Gln Gln Gln Gln Gln Gln Arg Arg Gln Lys
            20   25   30
Pro Tyr Arg Gly Ile Arg Met Arg Lys Trp Gly Lys Trp Val Ala Glu
        35   40   45
Ile Arg Glu Pro Asn Lys Arg Ser Arg Ile Trp Leu Gly Ser Tyr Ala
    50   55   60
Thr Pro Val Ala Ala Ala Arg Ala Tyr Asp Thr Ala Val Phe Tyr Leu
65   70   75   80
Arg Gly Pro Ser Ala Arg Leu Asn Phe Pro Asp Leu Ile Trp Arg Glu
                85   90   95

<210> 818
<211> 159
<212> PRT
<213> Eucalyptus grandis

<400> 818
Met Val Lys Arg Asp Arg Glu Asp Ala Glu Val Glu Ala Leu Ala Val
1   5   10   15
Ala Asn Cys Leu Met Leu Leu Pro Arg Val Gly Glu Ser Ala Val Ser
            20   25   30
Asn Arg Glu Ser Arg Ser Thr Glu Arg Met Phe Ala Cys Lys Thr Cys
        35   40   45
Asn Arg Glu Phe Ser Ser Phe Gln Ala Leu Gly Gly His Arg Thr Ser
    50   55   60
His Lys Lys Gln Lys Leu Ile Pro Gly Gly Leu Phe His Leu Gly Cys
65   70   75   80
Thr Ala Asp Ser Ser Pro Ala Lys Pro Lys Arg His Glu Cys Ser Ile
                85   90   95
Cys Gly Leu Glu Phe Pro Met Gly Gln Ala Leu Gly Gly His Met Arg
            100   105   110
Arg His Arg Ala Ala Met Ala Glu Gly Leu Ala Ala Glu Ala Ala Lys
        115   120   125
Pro Val Pro Val Leu Lys Arg Ser Asn Ser Lys Arg Val Met Cys Leu
    130   135   140
Asp Leu Asn Ser Ser Leu Met Glu Asp Asp Leu Thr Leu Arg Leu
145   150   155

<210> 819
<211> 241
<212> PRT
<213> Eucalyptus grandis

<400> 819
Glu Asp Ser Leu Asp Lys Glu Pro Pro Pro Pro Pro Pro Pro Arg Phe
1   5   10   15
Lys Val His Ser Phe Cys Lys Thr Leu Thr Ala Ser Asp Thr Ser Thr
            20   25   30
His Gly Gly Phe Ser Val Leu Arg Arg His Ala Asp Glu Cys Leu Pro
        35   40   45
Gln Leu Asp Met Ser Lys Gln Pro Pro Thr Gln Glu Leu Ala Ala Lys
    50   55   60
Asp Leu His Gly Asn Glu Trp Arg Phe Arg His Ile Phe Arg Gly Gln
65   70   75   80
Pro Arg Arg His Leu Leu Gln Ser Gly Trp Ser Val Phe Val Ser Ser
                85   90   95
Lys Arg Leu Val Ala Gly Asp Ala Phe Ile Phe Leu Arg Gly Glu Asn
            100   105   110
Gly Glu Leu Arg Val Gly Val Arg Arg Ala Met Lys Gln Gln Gly Asn
        115   120   125
Val Ser Pro Ser Val Ile Ser Ser His Ser Met His Leu Gly Val Leu
    130   135   140
Ala Thr Ala Trp His Ala Ile Ser Thr Gly Thr Met Phe Thr Val Tyr
145   150   155   160
Tyr Lys Pro Arg Ile Ser Pro Ala Glu Phe Ile Ile Pro Tyr Asp Gln
                165   170   175
Tyr Met Glu Ser Leu Lys Lys Asn Tyr Ser Ile Gly Met Arg Phe Lys
            180   185   190
Met Arg Phe Glu Gly Glu Glu Ala Pro Glu Gln Arg Phe Thr Gly Thr
        195   200   205
Ile Ile Gly Ile Glu Asp Ala Asp Pro Lys Gly Trp Arg Asp Thr Lys
    210   215   220

Trp Arg Ser Leu Lys Val Arg Trp Asp Glu Asn Ser Ala Ile Pro Arg
225   230   235   240
Pro

<210> 820
<211> 185
<212> PRT
<213> Eucalyptus grandis

<400> 820
Phe Arg Gly Val Arg Lys Arg Lys Trp Gly Arg Trp Val Ser Glu Ile
1   5   10   15
Arg Leu Pro Asn Ser Arg Glu Arg Ile Trp Leu Gly Ser Tyr Asp Thr
            20   25   30
Pro Glu Lys Ala Ala Arg Ala Phe Asp Ala Ala Ala Phe Cys Leu Gly
        35   40   45
Arg Pro Ala Ala Lys Leu Asn Phe Pro Gly Ser Pro Pro Glu Ile Ser
    50   55   60
Gly Ala Ala Ser Leu Ser Pro Asp Glu Ile Gln Ser Ala Ala Ala Ser
65   70   75   80
His Ala Asn Phe Gly Ala Val Ala Val Pro Ala Arg Ala Glu Leu Pro
                85   90   95
Arg Pro Gly Ser Pro Ala Pro Ser Pro Ser Leu Ser Ala Ser Glu Ala
            100   105   110
Ser Ser Val Leu Thr Thr Glu Ser Asp Leu Thr Leu Asp Leu Ser Phe
        115   120   125
Leu Asp Phe Leu Asp Asp Ser Gly Pro Val Ser Gly Glu Pro His Ile
    130   135   140
Gly Lys Phe Pro Gly Val Glu Glu Ala Pro Asp Val Phe Tyr His Met
145   150   155   160
Gln Phe Pro Ser Val Glu Ser Ala Gly Leu Asn Leu Asp Thr Leu Leu
                165   170   175
Ala Ser Asp Ser Phe Pro Trp Arg Ile
            180   185

<210> 821
<211> 187
<212> PRT
<213> Eucalyptus grandis

<400> 821
Glu Ala Asp Phe Leu Ala Lys His Ser Lys Pro Glu Ile Val Asp Met
1   5   10   15
Leu Arg Lys His Thr Tyr Arg Asp Glu Leu Glu Gln Ser Lys Arg Ser
            20   25   30
Tyr Arg Gly Ser Ala Ala Glu Arg Ala Gly Arg Gly Gly Phe Gly Pro
        35   40   45
Gly Arg Thr Glu Trp Ser Ala Ala Ala Arg Glu Gln Leu Phe Glu Lys
    50   55   60
Ala Val Thr Pro Ser Asp Val Gly Lys Leu Asn Arg Leu Val Ile Pro
65   70   75   80
Lys Gln His Ala Glu Lys His Phe Pro Leu Pro Gly Gly Pro Ala Ala
                85   90   95
Thr Met Lys Gly Val Leu Leu Asn Phe Glu Asp Val Gly Gly Lys Val
            100   105   110
Trp Arg Phe Arg Tyr Ser Tyr Trp Asn Ser Ser Gln Ser Tyr Val Leu

115 120 125
Thr Lys Gly Trp Ser Arg Phe Val Lys Glu Lys Ser Leu Lys Ala Gly
130 135 140
Asp Thr Val Cys Phe Gln Arg Ser Thr Gly Pro Asp Lys Gln Leu Tyr
145 150 155 160
Ile Asp Phe Lys Pro Arg Gly Gln Pro Pro Ala Gly Pro Ala Ala Pro
165 170 175
Pro Pro Pro Pro Val Gln Met Val Arg Leu Phe
180 185

<210> 822
<211> 110
<212> PRT
<213> Eucalyptus grandis

<400> 822
Val Asn Pro Pro Thr Arg Thr Phe Val Lys Val His Lys Ser Gly Thr
1 5 10 15
Phe Gly Arg Ser Leu Asp Ile Ser Lys Phe Ser Ser Tyr Asp Glu Leu
20 25 30
Arg Ser Glu Leu Ala Arg Met Phe Gly Leu Glu Gly Gln Leu Glu Asp
35 40 45
Pro Gln Arg Ser Gly Trp Gln Leu Val Phe Val Asp Arg Glu Asn Asp
50 55 60
Ile Leu Leu Leu Gly Asp Asp Pro Trp Gln Glu Phe Val Asn Asn Val
65 70 75 80
Trp Tyr Ile Lys Ile Leu Ser Pro His Glu Val Lys Gln Leu Gly Lys
85 90 95
Gln Gly Ile Asn Pro Ala Asn Ser Val Pro Arg Gln Ala Leu
100 105 110

<210> 823
<211> 370
<212> PRT
<213> Eucalyptus grandis

<400> 823
Met Thr Arg Arg Cys Ser His Cys Cys Asn Lys Gly His Asn Ser Arg
1 5 10 15
Thr Cys Pro Val Arg Gly Gly Gly Gly Asp Gly Gly Gly Ala Ala Ala
20 25 30
Ala Pro Ser Ser Ser Ser Pro Ser Thr Ser Ser Ser Gly Ala Ala Ala
35 40 45
Ala Ala Ala Ala Ser Ala Ser Gly Gly Gly Val Lys Leu Phe Gly Val
50 55 60
Arg Leu Thr Asp Gly Ser Ile Met Lys Lys Ser Ala Ser Val Gly Cys
65 70 75 80
Leu Ser Ala Ala His Tyr His Ser Ser Ser Ser Ala Ala Ala Ser Pro
85 90 95
Asn Pro Gly Ser Ser Pro Ile Asp Gly Ser Asp Gly Tyr Leu Ser Asp
100 105 110
Asp Pro Ala Pro Gly Ser Arg Ser Ser Asn Arg Arg Val Glu Arg Lys
115 120 125
Lys Gly Asn Pro Trp Thr Glu Glu Glu His Arg Arg Phe Leu Ile Gly
130 135 140
Leu Gln Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asp Phe
145 150 155 160

Val Thr Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr
                165   170   175
Tyr Ile Arg Gln Ser Asn Ala Gly Arg Arg Lys Arg Arg Ser Ser Leu
            180   185   190
Phe Asp Met Ala Pro Asp Met Ala Thr Ala Asp Gln Pro Ser His Pro
        195   200   205
Glu Glu Thr Phe Leu Pro Pro Leu Val Arg Leu Asn Asp Asp Thr Asn
    210   215   220
Ser Thr Thr Ser Thr Ser Met Gly Leu Asp Leu Glu Arg Thr Pro Met
225   230   235   240
Glu Thr Ser His Pro Glu Thr Ser Glu Gly Gly Gly Asp Val Ala Met
                245   250   255
Glu Ser Ile Asp Gln Val Pro Leu Val Pro Cys Tyr Phe Pro Tyr Tyr
            260   265   270
Leu Pro Leu Pro Phe Pro Met Trp Pro Pro Asn Met Ala Pro Pro Glu
        275   280   285
Asp Gly Arg Val Val Glu Thr Ser His His Arg Val Leu Lys Pro Ile
    290   295   300
Pro Val Ile Pro Lys Glu Pro Leu Asn Ile Asp Gln Ile Val Gly Met
305   310   315   320
Ser Gln Leu Ser Leu Ala Glu Asn Glu Pro Ala Pro Leu Ser Leu Lys
                325   330   335
Phe Leu Gly Glu Thr Ser Arg Gln Ser Ala Phe Ile Lys Ala Pro Ser
            340   345   350
Ser Val Asn Glu Ser Asp Leu Asp Asn Cys Lys Asp Gly Ala Thr Gln
        355   360   365
Ala Ala
    370

<210> 824
<211> 160
<212> PRT
<213> Eucalyptus grandis

<400> 824
Glu Leu Trp Leu Ser Phe Gly Thr Gly Glu Lys Lys Ser Ile Asn Ser
1   5   10   15
Glu Leu Trp His Ala Cys Ala Gly Pro Leu Val Ser Leu Pro Pro Val
            20   25   30
Gly Ser Leu Val Val Tyr Phe Pro Gln Gly His Ser Glu Gln Val Ala
        35   40   45
Ala Ser Met Gln Lys Glu Thr Thr Cys Val Pro Ser Tyr Pro Asn Leu
    50   55   60
Pro Ala Lys Leu Ile Cys Met Leu His Asn Val Thr Leu His Ala Asp
65   70   75   80
Leu Glu Thr Asp Glu Val Tyr Ala Gln Met Thr Leu Gln Pro Val Ser
                85   90   95
Lys Tyr Asp Gln Glu Ala Leu Leu Ala Ser Asp Met Gly Leu Lys Gln
            100   105   110
Ser Arg Gln Pro Thr Glu Phe Phe Cys Lys Thr Leu Thr Ala Ser Asp
        115   120   125
Thr Ser Thr His Gly Gly Phe Ser Val Pro Arg Arg Ala Ala Glu Lys
    130   135   140
Ile Phe Pro Ser Leu Asp Phe Thr Met Gln Pro Pro Cys Gln Glu Leu
145   150   155   160

<210> 825

<211> 129
<212> PRT
<213> Eucalyptus grandis

<400> 825

```
Met Ala Leu Glu Ala Leu Asn Ser Pro Thr Ala Ala Ala Pro Phe Gly
 1               5                  10                  15
His Asp Asp Ala Asp Gly His Pro Trp Ala Lys Arg Lys Arg Ser Lys
            20                  25                  30
Arg Pro Arg Ala Asp Pro Gln Asp Gln Pro Ser Glu Glu Glu Tyr Leu
        35                  40                  45
Ala Leu Cys Leu Ile Met Leu Ala Arg Arg Arg Arg Arg Pro Gly Ser
    50                  55                  60
Ser Gly Arg Leu His Glu Cys Ser Ile Cys His Lys Ala Phe Pro Thr
65                  70                  75                  80
Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Asp Gly Gly Ser
                85                  90                  95
Ser Ser Ser Ala Ala Arg Ala Ala Ser Ser Ser Glu Ala Gly Gly Pro
            100                 105                 110
Ser His Thr Thr Val Ser His Arg Glu Pro Ile Asp Leu Asn Leu Pro
        115                 120                 125
Ala
```

<210> 826
<211> 115
<212> PRT
<213> Eucalyptus grandis

<400> 826

```
Arg His Leu Leu Gln Ser Gly Trp Ser Leu Phe Val Ser Ser Lys Lys
 1               5                  10                  15
Leu Val Ala Gly Asp Ala Phe Ile Tyr Leu Arg Gly Glu Asn Gly Glu
            20                  25                  30
Leu Arg Val Gly Val Arg Arg Ala Met Arg Gln Leu Asn Asn Val Pro
        35                  40                  45
Ser Ser Ile Met Pro Ser His Ser Met His Ile Gly Val Leu Ala Thr
    50                  55                  60
Ala Trp His Ala Ile Ser Thr Gly Thr Met Phe Thr Val Tyr Tyr Lys
65                  70                  75                  80
Pro Arg Thr Ser Pro Ala Glu Phe Ile Ile Pro Phe Asp Lys His Ile
                85                  90                  95
Glu Ser Ala Lys Phe Asp Tyr Ser Ile Gly Met Arg Phe Arg Met Thr
            100                 105                 110
Phe Glu Trp
        115
```

<210> 827
<211> 199
<212> PRT
<213> Eucalyptus grandis

<400> 827

```
Ser Ser Val His Asp Ile Ser Glu Asn Gly Glu Ala Asp Glu Gln Gln
 1               5                  10                  15
Lys His Ser Glu Gln His Glu Ser Ser Pro Ala Thr Gly Val Pro His
            20                  25                  30
```

Pro Gly Val Ser Leu Pro Asn Val Gln Tyr Ala Thr Pro Pro Gln Leu
35 40 45
Gly Ala Gly His Ala Met Thr Pro Pro Ala Tyr Pro Tyr Pro Asp Pro
50 55 60
Tyr Tyr Arg Ser Ile Phe Ala Pro Tyr Asp Ala Gln Ser Tyr Pro Gln
65 70 75 80
Gln Pro Tyr Gly Ala Gln Pro Met Val His Leu Gln Leu Met Gly Ile
85 90 95
Gln Gln Ala Gly Val Pro Leu Pro Ser Asp Ala Val Glu Glu Pro Val
100 105 110
Phe Val Asn Ala Lys Gln Tyr His Gly Ile Leu Arg Arg Arg Gln Ser
115 120 125
Arg Ala Lys Ala Glu Leu Glu Asn Lys Ala Leu Lys Ser Arg Lys Pro
130 135 140
Tyr Leu His Glu Ser Arg His Leu His Ala Leu Arg Arg Ala Arg Gly
145 150 155 160
Cys Gly Gly Arg Phe Leu Asn Ala Lys Lys Asp Glu Asn Gln Gln Ser
165 170 175
Glu Val Ser Ser Ala Asp Lys Ser Gln Gly Asn Ile Asn Leu Asn Ser
180 185 190
Asp Lys Ser Asp Arg Ser Ser
195

<210> 828
<211> 98
<212> PRT
<213> Eucalyptus grandis

<400> 828
Val Lys Asp Met Phe Gln Asp Gln Arg Glu Lys Tyr Asp Thr Phe Leu
1 5 10 15
Glu Val Met Lys Asp Phe Lys Ala Gln Arg Thr Asp Thr Thr Gly Val
20 25 30
Ile Ala Arg Val Lys Glu Leu Phe Lys Gly His Asn Lys Leu Ile Leu
35 40 45
Gly Phe Asn Thr Phe Leu Pro Lys Gly Phe Glu Ile Ser Pro Asp Glu
50 55 60
Asp Glu Thr Pro Ile Lys Lys Asn Val Glu Phe Glu Glu Ala Ile Ser
65 70 75 80
Phe Val Asn Lys Ile Lys Lys Arg Phe Gln Asn Asp Glu His Val Tyr
85 90 95
Lys Ser

<210> 829
<211> 136
<212> PRT
<213> Eucalyptus grandis

<400> 829
Met Phe Arg Gln His Asn Leu Leu Leu Asn Phe Asn Pro Thr Asp Asp
1 5 10 15
Asp Pro Gln Asp Glu Gly Ser Pro Pro Pro Pro Tyr Val Leu Arg Gly
20 25 30
Ala Pro Pro Pro Ala Glu Pro Ser Pro Ala Glu Lys Glu Pro Met Phe
35 40 45
Glu Lys Pro Leu Thr Pro Ser Asp Val Gly Lys Leu Asn Arg Leu Val

50 55 60
Ile Pro Lys Gln His Ala Glu Lys His Phe Pro Leu Val Gly Glu Ala
65 70 75 80
Thr Gln Gln Leu Ser Phe Glu Asp Glu Ser Gly Lys Trp Trp Arg Phe
85 90 95
Arg Tyr Ser Tyr Trp Ser Ser Ser Gln Ser Tyr Val Leu Thr Lys Gly
100 105 110
Trp Ser Arg Phe Val Lys Asp Lys Arg Leu Asp Ala Gly Asp Val Val
115 120 125
Leu Phe Thr Ala Thr Ala Pro Thr
130 135

<210> 830
<211> 96
<212> PRT
<213> Eucalyptus grandis

<400> 830
Met Ala Gln Arg Ser Ala Pro Ala Pro Phe Leu Thr Lys Thr Tyr Gln
1 5 10 15
Leu Val Asp Asp Pro Ala Thr Asp Asp Val Ile Ser Trp Gly Glu Ser
20 25 30
Gly Arg Thr Phe Val Val Trp Lys Thr Ala Glu Phe Ala Lys Asp Leu
35 40 45
Leu Pro Ser Ser Phe Lys His Asn Asn Phe Ser Ser Phe Val Arg Gln
50 55 60
Leu Asn Thr Tyr Gly Phe Arg Lys Ile Val Pro Asp Lys Trp Glu Phe
65 70 75 80
Ala Asn Asp Arg Phe Gln Arg Gly Gln Lys Glu Leu Leu Ser Glu Ile
85 90 95

<210> 831
<211> 81
<212> PRT
<213> Eucalyptus grandis

<400> 831
Arg Met Trp Arg Asp Lys Met Arg Leu Lys Arg Leu Lys Glu Gln Asn
1 5 10 15
Lys Gly Lys Glu Gly Val Asp Ile Ala Lys Gln Arg Gln Ser Gln Glu
20 25 30
Gln Ala Arg Arg Lys Lys Met Ser Arg Ala Gln Asp Gly Ile Leu Lys
35 40 45
Tyr Met Leu Lys Met Met Val Ala His Trp Lys Arg Gly Leu Val Ala
50 55 60
Pro Ala Gly Phe Ala Glu Gly Ser Arg Ser Pro Ala Leu Gln Glu Thr
65 70 75 80
Ser

<210> 832
<211> 94
<212> PRT
<213> Eucalyptus grandis

<400> 832
Met Asp Gln Trp Arg Thr Asp Leu Gly Ala Ser Thr Ser Val His Pro

1 5 10 15
Gln Gln His Gln His Gln His Gln His His Pro Ser Ser Arg Leu His
20 25 30
Ala Ser His Asp Glu Pro Arg Gln Arg Glu Glu Ala Asp Val Arg Asp
35 40 45
Pro Val Ala Ala Arg Lys Val Gln Lys Ala Asp Arg Glu Lys Leu Arg
50 55 60
Arg Asp Arg Leu Asn Glu His Phe Leu Glu Leu Gly Ser Thr Leu Asp
65 70 75 80
Pro Asp Arg Pro Lys Asn Asp Lys Ala Thr Ile Leu Thr Asp
85 90

<210> 833
<211> 245
<212> PRT
<213> Eucalyptus grandis

<400> 833
Lys Lys Thr Ile Ser Ser Glu His Lys Arg Arg Arg Val Val Val Val
1 5 10 15
Val Leu Leu Leu Leu Val Pro Ser Thr Ser Phe Phe Pro Pro Pro Ser
20 25 30
Ser Ser Leu Pro Pro Ser Leu Ser Leu Asn Leu Pro Asn Pro Ser Arg
35 40 45
Arg Arg Arg Arg Glu Arg Glu Arg Glu Arg Glu Arg Arg Glu Asp His
50 55 60
Arg Phe Arg Pro Ser Arg Ala Arg Ala Val Met Arg Arg Gly Arg Cys
65 70 75 80
Ala Ala Ala Ala Ala Lys Arg Glu Ala Ala Glu Ile Ala Pro Pro Pro
85 90 95
Val Pro His Ala Ala Ala Ala Ala Ala Ala Glu Pro Arg Tyr Arg Gly
100 105 110
Val Arg Arg Lys Ser Leu Gly Arg Tyr Thr Ala Glu Ile Arg Asp Pro
115 120 125
Gly Thr Lys Lys Leu Val Arg Leu Gly Thr Phe Gly Ser Pro Glu Glu
130 135 140
Ala Ala Arg Ala Phe Asp Ala Lys Ala Val Ala Phe Arg Gly Val Lys
145 150 155 160
Ala Arg Thr Asn Phe Pro Val Ala Pro Ser Ser Phe Pro Pro Ala Ala
165 170 175
Ser Arg Asp Leu Arg Ala Pro Leu Ile Glu Ser Arg Lys Phe Gly Arg
180 185 190
Arg Gly Ala Arg Asp Leu Arg Gly Asp His His Asp Val Ser Pro Gln
195 200 205
Arg Pro Thr Ser Ser Ser Leu Ser Ser Thr Val Val Ser Ser Ser Gly
210 215 220
Pro Arg Pro Ser Pro Ser Pro Glu Thr Ala Lys Arg Arg Thr Arg Thr
225 230 235 240
Pro Pro Arg His Arg
245

<210> 834
<211> 180
<212> PRT
<213> Eucalyptus grandis

<400> 834

Tyr Asn Ser Asn Ser Asp Pro Ile Arg Glu Glu Phe Met Lys Ala Leu
1 5 10 15

Glu Pro Phe Met Lys Ser Val Ser Pro Val Ser Ser Pro Leu Ser Ser
20 25 30

Leu Ser Ser Cys Asp Ser Val Phe Pro Lys Gln Gln Pro Asn Leu Asn
35 40 45

Pro Asp Leu Cys Ser Ser Trp Ile Val Asn Pro Met Gly Leu Glu Gln
50 55 60

Ser Gly Ser Ile Gly Leu Asn Arg Leu Ser His Ser Gln Ile Gln His
65 70 75 80

Ile Gln Asp Glu Met Leu Leu Arg Arg Gln Asn Gln Glu Leu Trp Leu
85 90 95

Ala Ser Ala Val Lys Ser Pro Leu Gln His Glu Lys Phe Asp Gln Cys
100 105 110

Arg Tyr Gln Asn His His Gly Ser Pro His Leu Leu Arg Pro Lys Ala
115 120 125

Leu Ser Met Lys Arg Val Gly Val Pro Pro Lys Pro Asn Lys Leu Tyr
130 135 140

Arg Gly Val Arg Gln Arg His Trp Gly Lys Trp Val Ala Glu Ile Arg
145 150 155 160

Leu Pro Lys Asn Arg Thr Arg Leu Trp Leu Gly Thr Phe Asp Thr Ala
165 170 175

Glu Glu Ala Ala
180

<210> 835
<211> 234
<212> PRT
<213> Eucalyptus grandis

<400> 835

Arg Glu Arg Glu Arg Gly Arg Gly Val Met Asp Leu Phe Phe His Glu
1 5 10 15

Glu Val Gln Ser Asp Ile Phe Trp Cys Asp Gln Leu Val Glu Pro Pro
20 25 30

Pro Pro Pro Pro Pro Pro Leu Pro Pro Ala Asn Pro Ser Ala Phe Ser
35 40 45

Pro Tyr Thr Asn Arg Leu Pro Ser Gln Asp Arg Gly Phe Met Pro Asn
50 55 60

Pro Gly Asn Asn Met Asn Lys Arg Val Met Glu Phe Leu Arg Arg Ser
65 70 75 80

Trp Ala Glu Pro Ser Gln Ile Gln Glu Phe Asp Arg Glu Arg Gly Phe
85 90 95

Arg His Met Leu Ser Glu Arg Met Arg Arg Glu Lys Gln Lys Arg Ser
100 105 110

Tyr Ser Ala Leu Leu Ser Glu Leu Pro His Gly Thr Lys Asn Asp Lys
115 120 125

Asn Ser Ile Val Gln Thr Ala Cys Met Arg Ile Lys Glu Leu Val Lys
130 135 140

Tyr Lys Gln Glu Leu Glu Arg Gln Asn Gly Glu Leu Lys Ser Gly Leu
145 150 155 160

Asn Glu Lys Ser Gly Gly Asp Lys Ala Glu Gly Thr Lys Ile Arg Val
165 170 175

Lys Ile Ala Asn Pro Thr Ser Gly Ile Asp Ser Met Leu Glu Val Leu
180 185 190

Lys Cys Leu Asp Asn Met Gly Leu Lys Ala Thr Ala Ile Gln Thr Gln
195 200 205

Cys Ser Ala Asp Gln Leu Phe Ala Val Ile Glu Val Glu Asn Glu Val
    210   215   220
Cys Ala Gln Gln Ser Asp Ala Asn Val His
225   230

<210> 836
<211> 59
<212> PRT
<213> Eucalyptus grandis

<400> 836
His Gly Ala Thr Trp Arg Arg Lys Glu Ala Asn Gly Gly Ser Glu Ala
 1   5   10   15
Ser Asp Ala Val Leu Pro Arg Ala His His Arg His Arg Tyr Lys Gly
            20   25   30
Val Arg Met Arg Lys Trp Gly Lys Trp Val Ala Glu Ile Arg Gln Pro
        35   40   45
Asn Ser Arg Asp Arg Ile Trp Leu Gly Ser Tyr
    50   55

<210> 837
<211> 38
<212> PRT
<213> Eucalyptus grandis

<400> 837
Glu Leu Leu Gln Ile Gln Arg Lys Arg Lys Arg Met Glu Ser Asn Arg
 1   5   10   15
Glu Ser Ala Lys Arg Ser Arg Leu Arg Lys Gln Gln His Leu Asp Glu
            20   25   30
Leu Thr Thr Glu Val Gly
        35

<210> 838
<211> 167
<212> PRT
<213> Eucalyptus grandis

<400> 838
Met Ala Pro Arg Glu Lys Pro Ser Val Ala Ala Ile Pro Asn Pro Asn
 1   5   10   15
Gly Ala Lys Glu Ile Arg Phe Arg Gly Val Arg Lys Arg Pro Trp Gly
            20   25   30
Arg Tyr Ala Ala Glu Ile Arg Asp Pro Gly Lys Lys Thr Arg Val Trp
        35   40   45
Leu Gly Thr Phe Asp Thr Ala Glu Glu Ala Ala Arg Ala Tyr Asp Thr
    50   55   60
Ala Ala Arg Glu Phe Arg Gly Ala Lys Ala Lys Thr Asn Phe Pro Thr
65   70   75   80
Ser Ala Glu Leu Ile Ser Ser Ser Arg Ser Pro Ser Gln Ser Ser Ser
                85   90   95
Leu Asp Glu Pro Ser Pro Pro Pro Pro Ala Gly Ala Val Gln Ala Ala
            100   105   110
Ala Leu Gly Pro Pro Leu Asp Leu Ser Leu Gly Arg His Pro Val Ala
        115   120   125
Ala Ala Ala Ala Gly Pro Gly Pro Tyr Phe Pro Gly Ala Ala Ala Met
    130   135   140

Cys Phe Pro Val Met Pro Pro Pro Pro Arg Pro Val Phe Phe Phe Asp
145   150   155   160
Pro Phe Gly Arg Met Glu His
                165

<210> 839
<211> 84
<212> PRT
<213> Eucalyptus grandis

<400> 839
Cys Leu Gly Leu Ser Ser Val Ala Ala Asn Ala Glu Lys Leu Ala Ala
1   5   10   15
Leu Gln Asn Glu Tyr His Phe Ala Lys Ala Arg Ile Asp Glu Asp His
            20   25   30
Glu Lys Ala Gln Arg Leu Glu Lys Lys Val Lys Thr Leu Thr Phe Gly
        35   40   45
Tyr Gln Met Arg Glu Lys Thr Leu Arg Asp Gln Ile Glu Ser Thr Phe
    50   55   60
Lys Gln Leu Asp Thr Ala Gly Thr Glu Leu Glu Cys Phe Pro Ala Leu
65   70   75   80
Gln Lys Gln Glu

<210> 840
<211> 157
<212> PRT
<213> Eucalyptus grandis

<400> 840
Pro Ser Ser Pro Val Ser Thr Lys Thr His Pro Pro Tyr Leu Cys Thr
1   5   10   15
Arg Pro Thr Arg Leu Ser Gln Gly Leu Arg Tyr Arg Arg Leu Ala Ala
            20   25   30
Lys His Glu Glu Lys Pro Ser Ala Val Leu Asp Lys Ser Gln Asp Pro
        35   40   45
Thr Asp Ser Ala Lys Pro Ser Lys Lys Pro Arg His Arg His Ser Pro
    50   55   60
Thr Gln Leu Ala Ala Leu Asn Glu Leu Phe Glu Lys Ser Glu His Pro
65   70   75   80
Thr Leu Glu Glu Arg Gly Gln Leu Ala Glu Lys Leu Gly Met Glu Thr
                85   90   95
Lys Thr Val Asn Ala Trp Phe Gln Asn Lys Arg Ala Ser Thr Lys Lys
            100   105   110
Arg Asn Lys Gly Gly Thr Ser Glu Pro His Pro Ala Thr Ser Gln Asn
        115   120   125
Asp Leu Ser Glu Asp Ala Leu Lys Thr Pro Ser Ala Leu Pro Ser Ile
    130   135   140
Ala Asn Leu Leu Asn Asp Ala Pro Ser Ser Ala Ser Pro
145   150   155

<210> 841
<211> 86
<212> PRT
<213> Eucalyptus grandis

<400> 841

Tyr Leu His Asn Pro Met Arg Lys Arg Gln Arg Thr Leu Asp Met His
1 5 10 15
Ala Gly Ala Pro Gly Pro Asn Asp Ala Ile Asp Ala Asn Ser Val Gly
20 25 30
Asp Asn Ala Phe Ile Ala Asp His Asp Ala Ile Asp Ser Ala Gly Asp
35 40 45
Asp Asp Asp Asp Glu Asp Lys Pro Lys Thr Gly Gln Lys Gln Gly Arg
50 55 60
Arg Lys Ile Lys Ile Glu Phe Ile Gln Asp Lys Ser Arg Arg His Ile
65 70 75 80
Thr Phe Ser Lys Arg Lys
85

<210> 842
<211> 201
<212> PRT
<213> Eucalyptus grandis

<400> 842
Asp His Val Pro Ser Ser Ser Ala Leu Asp Ser Arg Ser Ser Ser Asn
1 5 10 15
Arg Thr Ser Gly Val Thr Leu Ala Glu Val Leu Pro Thr Pro Gly Gln
20 25 30
Ser Lys Ser Ser Ala Asp Ser Gly Phe Cys Val Ser His Leu Gly Gly
35 40 45
Val Pro Asp Ser Gln Ser Ser Ser Tyr Ala Ala Glu His Val Asn Thr
50 55 60
His Gln Thr Gln Glu Ile His Leu Pro Val Pro Gln Asp Asn Ala Asp
65 70 75 80
Leu Pro Asp Ala Asn Phe Leu Val Ser Glu Thr Ala Ser Pro Asp Tyr
85 90 95
Leu Glu Thr Leu Ser Ala Ala Leu Asp Gly Thr Met Asp Val Glu Ser
100 105 110
Asp Ala Phe Ser Ser Glu Arg Asp Ala Gly Ile Met Leu Asp Asp Val
115 120 125
Thr Asn Leu Pro Ala Ile Ser Asp Val Phe Trp Glu Gln Phe Leu Ala
130 135 140
Ala Ser Pro Leu Thr Ala Asp Thr Glu Glu Ile Ser Ser Thr Ser His
145 150 155 160
Glu Thr Gly Ile Thr Asn Asp Gln Glu Ser His Thr Lys Val Glu Asn
165 170 175
Gly Phe Glu Lys Ala His Tyr Met Asp His Leu Thr Lys Gln Met Gly
180 185 190
His Leu Thr Ser Asn Asn Gly Thr Gly
195 200

<210> 843
<211> 187
<212> PRT
<213> Eucalyptus grandis

<400> 843
Phe Ser Thr Pro Pro Pro His Pro Glu Ser Asn Pro Ile Pro Ser Leu
1 5 10 15
Pro Pro Ser Leu Phe Phe Pro Gln Ser Phe Val Ala Phe Ser Ser Thr
20 25 30
His Ala Pro Gln Ser Pro Thr Pro Ser Ile Lys Leu Lys His His His

35 40 45
Leu Lys Lys Lys Glu Gly Lys Lys Glu Arg Arg Thr Gly Asp Pro Thr
50 55 60
Glu Gly Arg Ala Arg Thr Arg His Gly Thr Ile Pro Leu Leu Arg Glu
65 70 75 80
Gly Ala His Gln Gln Gly Arg Val Asp Gln Gly Arg Gly Pro Ala Pro
85 90 95
His Arg Leu His Pro Pro Pro Arg Arg Arg Leu Leu Ala Leu Pro Pro
100 105 110
Gln Ile Cys Arg Ala Ser Gln Val Arg Gln Glu Leu Gln Ala Gln Val
115 120 125
Asp Lys Leu Pro Pro Pro Arg Pro Gln Arg Gly Asn Phe Thr Glu Glu
130 135 140
Glu Asp Glu Leu Ile Ile Lys Leu His Ser Leu Leu Gly Asn Lys Trp
145 150 155 160
Ser Leu Ile Ala Gly Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys
165 170 175
Asn Tyr Trp Asn Thr His Ile Lys Arg Lys Ala
180 185

<210> 844
<211> 112
<212> PRT
<213> Eucalyptus grandis

<400> 844
Met Glu Met Lys Gly Gly Val Val Pro Lys Glu Glu Glu Ala Ser Ser
1 5 10 15
Asp Val Gly Gln Pro Pro Pro Pro Pro Pro Pro Pro Pro Gln Pro Met
20 25 30
Glu Gly Leu Gly Glu Ala Glu Ala Ala Pro Phe Leu Thr Lys Thr Phe
35 40 45
Glu Ile Val Glu Asp Pro Ala Thr Asp Pro Ile Val Ser Trp Ser Glu
50 55 60
Gly Arg Asn Ser Phe Ile Val Trp Asp Ala His Gln Phe Ala Val Thr
65 70 75 80
Leu Leu Pro Lys His Phe Lys His Gly Asn Phe Ser Ser Phe Ile Arg
85 90 95
Gln Leu Asn Thr Tyr Gly Val Phe Asp Glu Tyr Asp Thr Ala Ser Phe
100 105 110

<210> 845
<211> 76
<212> PRT
<213> Eucalyptus grandis

<400> 845
Met Thr Gly Asn Phe Gly Trp Gly Ser Asn Ser Met Glu Glu Ala Trp
1 5 10 15
Arg Lys Gly Pro Trp Thr Ala Glu Glu Asp Lys Leu Leu Ile Glu Tyr
20 25 30
Val Lys Leu His Gly Glu Gly Arg Trp Asn Ser Val Ala Arg Leu Thr
35 40 45
Gly Leu Lys Arg Asn Gly Lys Ser Cys Arg Leu Arg Trp Val Asn Tyr
50 55 60
Leu Arg Pro Asp Leu Lys Arg Gly Gln Ile Thr Pro
65 70 75

```
<210> 846
<211> 142
<212> PRT
<213> Eucalyptus grandis

<400> 846
Met Asn Ser Asn Ala Ser Ser Asn Pro Gln Ser Met Ala Thr Ser Thr
 1               5                  10                  15
Thr Ser Ala Thr Thr Pro Ala Ala Gly Gly Asp Gly Gly Lys Lys Val
            20                  25                  30
Arg Lys Pro Tyr Thr Ile Thr Lys Ser Arg Glu Ser Trp Thr Glu Glu
        35                  40                  45
Glu His Asp Lys Phe Leu Glu Ala Leu Gln Leu Phe Asp Arg Asp Trp
    50                  55                  60
Lys Lys Ile Glu Asp Phe Val Gly Ser Lys Thr Val Ile Gln Ile Arg
65                  70                  75                  80
Ser His Ala Gln Lys Tyr Phe Leu Lys Val Gln Lys Asn Gly Ala Val
                85                  90                  95
Ala His Val Pro Pro Pro Arg Pro Lys Arg Lys Ala Ala His Pro Tyr
            100                 105                 110
Pro Gln Lys Ala Ser Lys Asn Val Leu Val Pro Leu Gln Ala Ser Met
        115                 120                 125
Ala Gln Pro Ser Ser Thr Asn Pro Ala Phe Thr Ile Thr Pro
    130                 135                 140

<210> 847
<211> 84
<212> PRT
<213> Eucalyptus grandis

<400> 847
Met Lys Met Ala Glu Arg Ser Asn Ser Ser Asp Pro Glu Thr Ser Pro
 1               5                  10                  15
Ser Asn Ser Pro Ser Thr Ser Ser Ser Ser Ser Ser Tyr Ser Pro Asp
            20                  25                  30
Pro Arg Arg Arg Ala Gly Ser Pro Ala Ala Ala Arg Asp Pro Leu Arg
        35                  40                  45
Ser Ser Lys Arg Ser Lys His Pro Val Tyr Arg Gly Val Arg Met Arg
    50                  55                  60
Asn Trp Gly Lys Trp Val Ser Glu Ile Arg Glu Pro Arg Lys Lys Ser
65                  70                  75                  80
Arg Ile Trp Leu


<210> 848
<211> 60
<212> PRT
<213> Eucalyptus grandis

<400> 848
Lys Trp Arg Ser Arg Phe Arg Met Ala Gly Phe Gln Gln Phe Pro Leu
 1               5                  10                  15
Ser Ser Ala Val Thr Asp Ala Val Arg Asn Leu Leu Arg Glu Tyr Asn
            20                  25                  30
Glu Asn Tyr Arg Ile Glu Glu Lys Asp Gly Ala Leu Tyr Leu Trp Trp
        35                  40                  45
```

Arg Asn Arg Ala Met Ala Thr Ser Ser Ala Trp Trp
    50   55   60

<210> 849
<211> 90
<212> PRT
<213> Eucalyptus grandis

<400> 849
Gly Val Gly Phe Pro Asp Pro Gly Pro Asp Asn Gly Gln Val Leu Asp
1   5   10   15
Ala Arg Asp Pro Leu Ala Glu Lys Lys Leu Glu Leu Ala Thr Cys Gln
            20   25   30
Arg Arg Val Glu Glu Glu Met Leu Lys His Ser Lys Ala Val Glu Val
        35   40   45
Thr Arg Thr Ser Thr Leu Asn Asn Leu Gln Thr Gly Leu Pro Gly Val
    50   55   60
Phe Gln Ala Leu Ala Ser Phe Ser Ser Leu Phe Met Glu Val Leu Asp
65   70   75   80
Thr Val Cys Thr Arg Ser Tyr Ala Ile Lys
                85   90

<210> 850
<211> 52
<212> PRT
<213> Eucalyptus grandis

<400> 850
Met Ala Ala Pro Pro Ala Glu Gln Ser Gly Ser Ala Ser Gly Gly Glu
1   5   10   15
Ser Gln Arg Ser Val Pro Thr Pro Phe Leu Thr Lys Thr Tyr Gln Leu
            20   25   30
Val Asp Asp Pro Ala Ile Asp Ala Val Ile Ser Trp Asn Gly Asp Gly
        35   40   45
Ser Ser Phe Ile
    50

<210> 851
<211> 52
<212> PRT
<213> Eucalyptus grandis

<400> 851
Met Asp Pro Met Asp Ile Val Gly Lys Ser Lys Glu Asp Ala Ser Leu
1   5   10   15
Pro Lys Ala Thr Met Thr Lys Ile Ile Lys Glu Met Leu Pro Pro Asp
            20   25   30
Val Arg Val Ala Arg Asp Ala Gln Asp Leu Leu Ile Glu Cys Cys Val
        35   40   45
Glu Phe Ile Asn
    50

<210> 852
<211> 121
<212> PRT
<213> Eucalyptus grandis

<400> 852
Met Asn Ser Pro Leu Ala Gln Leu Val Asn Pro Arg Arg Met His Thr
1 5 10 15
Tyr Glu Pro Phe Asp Gln Phe Pro Met Trp Gly Asp Thr Phe Lys Ala
20 25 30
Asp Lys Val Lys Asn Leu Glu Ala Ser Ser Ser Val Ile Val His Ala
35 40 45
Val Asp Asp Gly Leu Asp Lys Lys Phe Glu Tyr Val Ser His Glu Ser
50 55 60
Ala Glu Asn Ser Ser Ser Arg Ser Asp Gln Glu Ala Asn Arg Pro Asp
65 70 75 80
Lys Val Gln Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser
85 90 95
Arg Leu Arg Lys Lys Lys Tyr Val Gln Gln Leu Glu Ser Ser Arg Leu
100 105 110
Lys Leu Ala Gln Leu Glu Leu Glu Leu
115 120

<210> 853
<211> 293
<212> PRT
<213> Eucalyptus grandis

<400> 853
Phe Val Tyr Gly Ile Ile Pro Glu Lys Gly Lys Pro Val Ser Gly Ala
1 5 10 15
Ser Asp Asn Leu Arg Ala Trp Trp Lys Glu Lys Val Arg Phe Asp Arg
20 25 30
Asn Gly Pro Ala Ala Ile Ala Lys Tyr Arg Ala Asp His Ser Ile Pro
35 40 45
Gly Asn Gly Glu Asp Ala Ala Thr Ile Gly Pro Ile Pro His Thr Leu
50 55 60
Gln Glu Leu Gln Asp Thr Thr Leu Gly Ser Leu Leu Ser Ala Leu Met
65 70 75 80
Gln His Cys Asn Pro Pro Gln Arg Arg Phe Pro Leu Glu Lys Gly Val
85 90 95
Ala Pro Pro Trp Trp Pro Thr Gly Glu Glu Glu Trp Trp Pro Gln Leu
100 105 110
Gly Leu Pro Ala Asp Gln Gly Pro Pro Pro Tyr Lys Lys Pro His Asp
115 120 125
Leu Lys Lys Ala Trp Lys Val Ser Val Leu Thr Ala Val Ile Lys His
130 135 140
Met Ser Pro Asp Ile Ser Lys Ile Arg Lys Leu Val Arg Gln Ser Lys
145 150 155 160
Cys Leu Gln Asp Lys Met Thr Ala Lys Glu Ser Ala Thr Trp Leu Ala
165 170 175
Ile Ile Asn Gln Glu Glu Ala Leu Ser Arg Lys Leu Tyr Pro Asn Ser
180 185 190
Phe Pro Pro Val Cys Ser Asp Ser Gly Phe Gly Ser Tyr Val Ile Ser
195 200 205
Asp Ala Ser Asp Tyr Asp Val Glu Gly Ala Asp Asp Glu Pro Lys Phe
210 215 220
Glu Ala Glu Glu Cys Lys Pro Phe Asp Pro Ser Ala Phe Gly Ile Gly
225 230 235 240
Pro Arg Val Ser Thr Gly Glu Leu Leu Ile His Pro Leu Val Ser Gln
245 250 255
Ile Lys Gly Glu Val Asn Glu Thr Lys Thr Asn Ser Arg Leu Val Ser

260 265 270
Lys Arg Asn Gln Pro Ser Asp Glu Pro Lys Ala Lys Met Asp Gln Lys
275 280 285
Ile Tyr Thr Cys Glu
290

<210> 854
<211> 150
<212> PRT
<213> Eucalyptus grandis

<400> 854
Ser Thr Ser Ser Gln Arg Ala Asp Lys Ser Leu Ile Met Glu His Glu
1 5 10 15
Phe Ser Ser Ala Lys Ile Lys Ala Leu Leu Glu Ile Leu Gln Ser Gln
20 25 30
Cys Arg Gly Glu Ser Ala Asn Ala Glu Leu His Gly Pro Met Gly Cys
35 40 45
Asp Asp Glu Ser Leu Phe Glu Asn Thr Gly Thr Gly Asp Ser Thr Tyr
50 55 60
Arg Val Lys Ala Val Lys His Thr Thr Val Tyr Ser Ser Ser Pro Pro
65 70 75 80
Glu Gly Pro Ile Lys Ala Ile Val Phe Ser Gln Trp Thr Ser Met Leu
85 90 95
Asn Leu Val Glu Gln Asn Leu Ile His Phe Gly Ile Asn Tyr Arg Arg
100 105 110
Leu Asp Gly Thr Met Thr Leu Ser Ala Arg Asp Lys Ala Val Lys Asp
115 120 125
Phe Asn Thr Asp Pro Glu Ile Val Val Met Leu Met Ser Leu Lys Ala
130 135 140
Gly Asn Leu Gly Leu Asn
145 150

<210> 855
<211> 92
<212> PRT
<213> Eucalyptus grandis

<400> 855
Ser Glu Phe Gly Gly Glu Leu Met Asn Pro Arg Ser Asn Trp Leu Ile
1 5 10 15
Val Tyr Asn Asp Asp Glu Gly Asp Met Met Leu Val Gly Asp Asp Pro
20 25 30
Trp Gln Glu Phe Cys Gly Ile Val Arg Lys Ile Phe Ile Tyr Thr Arg
35 40 45
Glu Glu Val Gln Lys Met Lys Pro Gly Thr Ile Ser Ala Lys Asp Glu
50 55 60
Asp Asn Leu Met Val Asp Glu Gly Val Phe Ser Lys Lys Met Thr Ser
65 70 75 80
Asp Thr Leu Pro Ser Ala Ser Asp Pro Lys Asn Cys
85 90

<210> 856
<211> 74
<212> PRT
<213> Eucalyptus grandis

<400> 856
Ile Glu Ala Leu Lys Lys Arg Leu Asp Asp Val Asn Ala Lys Tyr Ala
1 5 10 15
Val Ser Val Glu Phe Thr Lys Ala Met Ala Leu Asn His Leu Lys Asn
20 25 30
Gly Leu Pro Arg Val Phe Lys Ala Leu Met Glu Phe Ser Gly Ala Cys
35 40 45
Thr Lys Val Phe Glu Ala Leu Asn Asn Pro Arg Glu Gln Val Gly Ser
50 55 60
Arg Glu Asn Glu Pro Arg Val Leu Pro Ala
65 70

<210> 857
<211> 125
<212> PRT
<213> Eucalyptus grandis

<400> 857
Gln Ile Leu Pro Pro Asn Ala Lys Ile Ser Lys Glu Ala Lys Glu Thr
1 5 10 15
Met Gln Glu Cys Val Ser Glu Phe Ile Ser Phe Val Thr Gly Glu Ala
20 25 30
Ser Asp Lys Cys His Lys Glu Lys Arg Lys Thr Val Asn Gly Asp Asp
35 40 45
Ile Val Trp Ala Leu Gly Ser Leu Gly Phe Asp Asp Tyr Ala Glu Pro
50 55 60
Leu Lys Arg Tyr Leu Asn Arg Tyr Arg Glu Val Glu Gly Glu Arg Ala
65 70 75 80
Ser Gln Asn Lys Val Thr Gly Gly Glu Ser Arg Asn Glu Lys Asn Leu
85 90 95
Tyr Gly Asp Glu Ser Pro Glu Lys Gln Leu Gly Ala Ala Ser Ser Ser
100 105 110
Pro Leu Lys Phe Phe Asp Val Ala Asp Arg Ser Thr Asn
115 120 125

<210> 858
<211> 113
<212> PRT
<213> Eucalyptus grandis

<400> 858
Val Asn Ser Val Phe Glu Leu His Lys Leu Leu Ala Arg Pro Gly Ala
1 5 10 15
Ile Glu Lys Val Leu Gly Val Val Arg Gln Val Arg Pro Ala Ile Val
20 25 30
Thr Val Val Glu Gln Glu Ala Asn His Asn Gly Pro Val Phe Val Asp
35 40 45
Arg Phe Asn Glu Ser Leu His Tyr Tyr Ser Thr Leu Phe Asp Ser Leu
50 55 60
Glu Gly Cys Ala Ser Thr Gln Asp Lys Ala Met Ser Glu Val Tyr Leu
65 70 75 80
Gly Lys Gln Ile Cys Asn Val Val Ala Cys Glu Gly Ala Asp Arg Val
85 90 95
Glu Arg His Glu Thr Leu Ala Gln Trp Arg Val Arg Leu Gly Gly Ala
100 105 110
Gly

```
<210> 859
<211> 114
<212> PRT
<213> Eucalyptus grandis

<400> 859
Ser Leu Phe Asn Thr Ser Lys Ser Asn Lys His Leu Trp Glu Gln Ile
1               5                   10                  15
Ser Ser Lys Met Arg Glu Lys Gly Phe Asp Arg Ser Pro Thr Met Cys
            20                  25                  30
Thr Asp Lys Trp Arg Asn Leu Leu Lys Glu Tyr Lys Lys Ala Lys Tyr
        35                  40                  45
Gln Asp Arg Gly Ser Ala Lys Met Ser Tyr Tyr Lys Glu Ile Glu Glu
    50                  55                  60
Ile Leu Arg Glu Arg Ser Lys Asn Asn Gln Tyr Lys Ser Pro Thr Ala
65                  70                  75                  80
Ser Ala Leu Lys Val Asp Pro Tyr Met Gln Phe Ser Asp Lys Gly Ile
                85                  90                  95
Glu Asp Ala Gly Met Thr Phe Gly Pro Val Glu Ala Ser Gly Arg Pro
            100                 105                 110
Thr Leu


<210> 860
<211> 181
<212> PRT
<213> Eucalyptus grandis

<400> 860
Asp Leu Glu Leu Lys Val Arg Glu Leu Glu Thr Val Met Leu Gly Pro
1               5                   10                  15
Ser Ser Asp Met Pro His Thr Val Asp Ile Asn Phe Leu Val Gly Ser
            20                  25                  30
Gly Gln Met Ser Gln Glu Thr Glu Thr Leu Met Glu Ile Ile Ser Arg
        35                  40                  45
Arg Asp Leu Lys Glu Ile Leu Cys Ala Cys Ala Lys Ala Val Glu Asp
    50                  55                  60
Asn Asp Thr Leu Lys Phe Glu Cys Leu Ile Ser Glu Leu Arg Pro Met
65                  70                  75                  80
Val Ser Val Ser Gly Asp Pro Ile Gln Arg Leu Ser Ala Tyr Met Leu
                85                  90                  95
Glu Gly Leu Ile Ala Arg Leu Ala Ser Ser Gly Ser Ser Ile Tyr Lys
            100                 105                 110
Ala Leu Lys Cys Lys Glu Pro Ala Gly Ala Glu Leu Leu Ser Tyr Met
        115                 120                 125
His Ile Leu Tyr Asp Ile Cys Pro Tyr Phe Lys Phe Gly Tyr Met Ser
    130                 135                 140
Ala Asn Gly Ser Ile Ala Glu Val Met Lys Asp Glu Asn Ile Ile His
145                 150                 155                 160
Ile Ile Asp Phe Gln Ile Ala Gln Gly Gly Gln Trp Ile Thr Leu Ile
                165                 170                 175
Gln Ala Leu Ala Ala
            180

<210> 861
<211> 58
```

<212> PRT
<213> Eucalyptus grandis

<400> 861
Met Ala Arg Ser Ser Cys Asn Gln Lys Leu Arg Lys Gly Leu Trp Ser
1   5   10   15
Pro Glu Glu Asp Glu Lys Leu Phe Asn Tyr Ile Ser Arg His Gly Leu
            20   25   30
Gly Cys Trp Ser Ser Val Pro Lys Leu Ala Gly Leu Gln Arg Cys Gly
        35   40   45
Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr
    50   55

<210> 862
<211> 86
<212> PRT
<213> Eucalyptus grandis

<400> 862
Met Ala Ser Gly Met Glu Asn Arg Gly Glu Ile Pro Ala Asn Leu Lys
1   5   10   15
Lys Gln Leu Ala Leu Ala Val Arg Lys Ile Gln Trp Ser Tyr Gly Ile
            20   25   30
Phe Trp Ser Ile Ser Thr Arg Gln Pro Gly Val Leu Glu Trp Gly Asp
        35   40   45
Gly Tyr Tyr Asn Gly Asp Ile Lys Thr Arg Lys Thr Ile Gln Ala Val
    50   55   60
Glu Leu Asn Thr Asp Gln Ile Gly Met Gln Arg Ser Glu Gln Leu Arg
65   70   75   80
Glu Leu Tyr Glu Ser Leu
                85

<210> 863
<211> 182
<212> PRT
<213> Eucalyptus grandis

<400> 863
Asn Ile Gln Arg Asn Glu Tyr His Asn Leu Phe Asn Phe Ile Ser Gly
1   5   10   15
Lys Gly Leu Lys Ile Met Asn Leu Gly Glu Gln Gly Ala Asp Gly Val
            20   25   30
Pro Gly Val Leu Asp Val Asp Asp Asp Ala Val Asp Pro His Leu
        35   40   45
Glu Arg Ile Arg Ile Glu Ala Gly Val Asp Glu Ser Asp Glu Glu Asp
    50   55   60
Glu Asp Phe Val Ile Asp Lys Asp Asp Gly Gly Ser Pro Thr Asp Asp
65   70   75   80
Ser Gly Asp Asp Glu Ser Asp Val Ser Glu Ser Gly Asp Glu Lys Glu
                85   90   95
Lys Glu Lys Tyr Gly Lys Lys Glu Ser Arg Lys Glu Val Lys Ala Ser
            100   105   110
Ser Ser Lys Lys Lys Ala Lys Ala Gly Asp Glu Glu Gly Ser Lys Lys
        115   120   125
Lys Lys Gln Lys Lys Lys Asp Pro Asn Ala Pro Lys Lys Ala Met Ser
    130   135   140
Gly Tyr Asn Phe Phe Leu Gln Thr Glu Ser Glu Lys Met Lys Arg Thr

145   150   155   160
Asn Pro Gly Leu Ser Phe Gly Asp Val Ser Arg Glu Ile Ala Asp Lys
                165   170   175
Trp Arg Gly Leu Ser Ala
            180

<210> 864
<211> 55
<212> PRT
<213> Eucalyptus grandis

<400> 864
Met Ser Phe Thr Gly Thr Gln Val Lys Cys Lys Ala Cys Glu Lys Thr
 1   5   10   15
Val Tyr Pro Val Glu Gln Leu Ser Ala Asp Gly Val Ala Tyr His Lys
            20   25   30
Tyr Cys Phe Lys Cys Ser His Cys Lys Gly Thr Leu Lys Leu Ser Ser
        35   40   45
Tyr Ser Ser Met Glu Gly Val
    50   55

<210> 865
<211> 151
<212> PRT
<213> Eucalyptus grandis

<400> 865
Asp Lys Ser Ser Ser Pro Val Pro Pro Gln Asp Gln Thr Gly Val His
 1   5   10   15
Val Tyr His Pro Asp Trp Ala Ala Met His Ala Tyr Tyr Gly Pro Arg
            20   25   30
Val Ala Leu Pro Pro Tyr Tyr Asn Ser Ala Val Ser Ser Gly His Gly
        35   40   45
Pro His Pro Tyr Met Trp Gly Pro Pro Gln Pro Met Met Pro Pro Tyr
    50   55   60
Gly Pro Pro Tyr Ala Ala Ile Tyr Ser His Gly Gly Val Tyr Gly His
65   70   75   80
Pro Ala Ile Pro Leu Thr Pro Thr Pro Leu Ala Ala Glu Thr Pro Lys
                85   90   95
Lys Ser Ser Ala Asn Ser Asp Asn Gly Leu Val Lys Lys Leu Lys Ser
            100   105   110
Phe Glu Gly Leu Ala Met Ser Ile Gly Ser Gly Gly Asp Ala Asp Ser
        115   120   125
Ala Asp Asp Gly Thr Asp Lys Arg Ser Ser Gln Ser Ala Asp Ser Gly
    130   135   140
Asp Ser Ser Asp Glu Asp Gln
145   150

<210> 866
<211> 203
<212> PRT
<213> Eucalyptus grandis

<400> 866
Arg Phe Lys Gln Leu Leu Glu Glu Ala Ser Gln Asp Ile Asp His Thr
 1   5   10   15
Thr Asp Tyr Tyr Thr Phe Arg Lys Lys Trp Gly Asn Asp Pro Arg Phe

20 25 30
Glu Ala Leu Asp Arg Lys Asp Arg Glu Asn Leu Leu Asn Glu Arg Val
35 40 45
Leu Pro Leu Lys Lys Ala Ala Glu Glu Arg Ala Gln Ala Met Arg Ala
50 55 60
Ala Ala Thr Ser Ser Phe Lys Ser Leu Leu Arg Asp Arg Gly Asp Ile
65 70 75 80
Thr Val Asn Ser Arg Trp Ser Arg Val Lys Asp Ser Leu Arg Asp Asp
85 90 95
Pro Arg Tyr Lys Ser Val Lys His Glu Asp Arg Glu Ala Leu Phe Asn
100 105 110
Glu Tyr Ile Ala Glu Leu Lys Ala Val Glu Asp Arg Glu Glu Lys Glu
115 120 125
Ala Lys Ala Lys Arg Glu Glu Gln Glu Lys Leu Lys Glu Arg Glu Arg
130 135 140
Glu Leu Arg Lys Arg Lys Glu Arg Glu Glu Gln Glu Met Glu Arg Val
145 150 155 160
Arg Val Lys Ile Arg Arg Lys Glu Ala Ile Ala Ser Phe Gln Ala Leu
165 170 175
Leu Val Glu Thr Ile Lys Asp Pro Gln Leu Pro Gly Gln Ser Gln Lys
180 185 190
Leu Asn Leu Thr Lys Ile Leu Arg Thr Cys Glu
195 200

<210> 867
<211> 113
<212> PRT
<213> Eucalyptus grandis

<400> 867
Glu Ile Lys Asn Tyr Trp Asn Thr Arg Ile Lys Arg Leu Gln Arg Thr
1 5 10 15
Gly Met Pro Ile Tyr Pro Thr Glu Val Cys Leu Gln Val Ser Ser Glu
20 25 30
Asn Gln Glu Thr His Asn Met Gly Asn Leu His Thr Ala Gly Glu Asp
35 40 45
Asn Cys Asp Leu Ser Gln Ala Asp Pro Leu Glu Ile Pro Glu Val Asp
50 55 60
Phe Arg Lys Leu Glu Leu His Leu Gly Phe Ser Ser Phe Trp Ser Thr
65 70 75 80
Leu Leu Asp Val Pro Pro Cys Gly Phe Gly Arg Glu Ala Met Cys Leu
85 90 95
Ser Asp Ala Tyr Cys Leu Pro Phe Pro Ser Ser Arg Ser Pro Lys Arg
100 105 110
Leu

<210> 868
<211> 107
<212> PRT
<213> Eucalyptus grandis

<400> 868
Thr Thr Arg Ile Pro Ala Ala Asn Leu Glu Asp Leu Phe Asp Asn His
1 5 10 15
Asn Met Ala Arg Ile Arg Asp Val Trp Ala Pro Asn Leu Glu Ile Glu
20 25 30

Met Gln Asn Ile Arg Glu Ala Ile Glu Lys Tyr Ser Tyr Val Ser Met
35 40 45
Asp Thr Glu Phe Leu Ser Gly Ala Arg Pro Ile Gly Asn Phe Lys Thr
50 55 60
Ser Ser Asp Tyr His Tyr Gln Thr Met Arg Cys Asn Val Asp Leu Leu
65 70 75 80
Lys Ile Ile Gln Val Gly Ile Thr Leu Ala Asp Glu Glu Gly Leu Phe
85 90 95
Pro Gln Asp Cys Ser Thr Trp Gln Val Gln Leu
100 105

<210> 869
<211> 85
<212> PRT
<213> Eucalyptus grandis

<400> 869
Met Gly Arg Ser Pro Cys Cys Glu Gly Asn Gly Leu Lys Lys Gly Pro
1 5 10 15
Trp Ser Ser Glu Glu Asp Lys Lys Leu Leu Asp Phe Ile Gln Gln His
20 25 30
Gly His Gly Ser Trp Ile Ser Leu Pro Lys Arg Ala Gly Leu Asn Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Trp Pro Asp
50 55 60
Ile Lys Arg Gly Ser Phe Ser Pro Glu Glu Glu Gln Thr Ile Leu His
65 70 75 80
Leu His Ser Val Leu
85

<210> 870
<211> 85
<212> PRT
<213> Eucalyptus grandis

<400> 870
Met Pro Trp Lys Thr Gly Leu Thr Gly Ser Lys Thr Glu Glu Asp Lys
1 5 10 15
Ala Leu Gln Leu Cys Arg Glu Arg Lys Lys Ser Val Arg Gln Ala Val
20 25 30
Asp Gly Trp Gly Ser Leu Val Tyr Ala His Phe Met Phe Val Gln Ser
35 40 45
Leu Arg Asn Val Gly Thr Ala Leu Thr Lys Phe Phe Glu Thr Glu Ser
50 55 60
Pro Asn Gly Ser Pro Ser Tyr Ala Ser Met Ser Thr Thr Pro Glu Pro
65 70 75 80
Ile Ala Leu Thr Glu
85

<210> 871
<211> 104
<212> PRT
<213> Eucalyptus grandis

<400> 871
Gly Leu Leu Arg Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr
1 5 10 15

Leu Arg Pro Gly Ile Lys Arg Gly Ser Phe Thr Asp Gln Glu Glu Lys
20 25 30
Met Ile Val His Leu Gln Ala Leu Leu Gly Asn Arg Gly Ala Ala Ile
35 40 45
Ala Ser Tyr Leu Pro Gln Arg Thr Asp Asn Asp Ile Lys Asn Tyr Trp
50 55 60
Asn Thr His Leu Lys Lys Lys Leu Lys Lys Leu Gln Gly Gln Ala Asn
65 70 75 80
Pro Asp Asp Asp Asp His Asn His His Pro Gln Gly Phe Asn Ala Thr
85 90 95
Ser His Ser Asn Pro Lys Gly Gln
100

<210> 872
<211> 102
<212> PRT
<213> Eucalyptus grandis

<400> 872
Met Ala Arg Thr Pro Cys Cys Glu Lys Met Gly Met Lys Lys Gly Pro
1 5 10 15
Trp Thr Pro Glu Glu Asp Gln Ile Leu Ile Ser His Ile His Gln Phe
20 25 30
Gly His Ser Asn Trp Arg Ala Leu Pro Arg Gln Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Val Lys Arg Gly Asn Phe Thr Asp Asp Glu Arg Asp Thr Ile Ile Glu
65 70 75 80
Leu His Gln Val Leu Gly Asn Arg Trp Ser Ala Ile Ala Ser Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn
100

<210> 873
<211> 125
<212> PRT
<213> Eucalyptus grandis

<400> 873
Trp Thr Ala Glu Glu Asp Lys Lys Leu Ile Asn Phe Ile Leu Thr His
1 5 10 15
Gly Gln Cys Cys Trp Arg Ala Val Pro Lys Leu Ala Gly Leu Leu Arg
20 25 30
Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp
35 40 45
Leu Lys Arg Gly Leu Leu Ser Glu Tyr Glu Glu Lys Met Val Ile Asp
50 55 60
Leu His Ala Gln Leu Gly Asn Arg Trp Ser Lys Ile Ala Ser His Leu
65 70 75 80
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn His Trp Asn Thr His Ile
85 90 95
Lys Lys Lys Leu Lys Lys Met Gly Ile Asp Pro Leu Thr His Lys Pro
100 105 110
Leu Val Thr Asn Asn Asp Asn Thr Thr Asp Gln Gln Pro
115 120 125

<210> 874
<211> 114
<212> PRT
<213> Eucalyptus grandis

<400> 874
Met Asp Lys Lys Pro Asp Asp Asp Ser Gly Lys Ser Gln Asp Val Glu
1   5   10   15
Val Arg Lys Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn
            20   25   30
Tyr Ile Ala Asn His Gly Glu Gly Ser Trp Asn Ser Leu Ala Lys Ala
        35   40   45
Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn
    50   55   60
Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Ile Thr Thr Glu Glu Gln
65   70   75   80
Leu Leu Ile Met Glu Leu His Ala Lys Trp Gly Asn Arg Asp Ala His
                85   90   95
Lys Ser His Asn Phe Ser Leu His Arg Phe Tyr Asn Ile Ile Pro Ile
            100   105   110
Asp His

<210> 875
<211> 127
<212> PRT
<213> Eucalyptus grandis

<400> 875
Asn Gly Asp Ser Val Lys Asp Asp Leu Asp Thr Asp Glu Tyr Glu Thr
1   5   10   15
His Ala Thr Val Leu Asp Lys Leu Leu Ala Trp Glu Lys Lys Leu Tyr
            20   25   30
Glu Glu Val Lys Gln Gly Glu His Met Lys Leu Glu Tyr Gln Lys Lys
        35   40   45
Val Ala Leu Leu Asn Lys Gln Lys Lys Arg Gly Ala Ser Gly Glu Ser
    50   55   60
Leu Glu Lys Thr Lys Ala Ala Val Ser His Leu His Thr Thr Tyr Ile
65   70   75   80
Val Asp Met Gln Ser Met Asp Ser Thr Ala Ser Glu Ile Asn His Ile
                85   90   95
Arg Asp Lys Gln Leu Tyr Pro Lys Leu Ala Gln Leu Val Asp Gly Met
            100   105   110
Ala Asn Met Trp Glu Lys Met Arg Met His His Asp Lys Gln Glu
        115   120   125

<210> 876
<211> 153
<212> PRT
<213> Eucalyptus grandis

<400> 876
Pro Glu Thr Val His Val Gln Asn Tyr Ser Pro Ile His Gln Met Gly
1   5   10   15
Ile Asp Gly Phe Phe Pro Ala His Pro Ser Pro Gln Asn Pro Ser Tyr
            20   25   30
His Ser Tyr Ser Pro Asn Asn Arg Pro Asn Phe Pro Pro Pro Ser Pro

35 40 45
Gln Thr Ser Gln Trp Asp Tyr Phe Trp Asn Pro Phe Ser Ser Leu Asp
50 55 60
Tyr Tyr Gly Tyr Pro Thr Arg Ser Ser Ile Asp His Met Ala Met Asp
65 70 75 80
Asp Glu Thr Arg Gly Leu Arg Gln Val Arg Glu Glu Glu Gly Ile Pro
85 90 95
Asp Leu Glu Glu Glu Thr Glu His Glu Glu Cys Asp His His Ser Tyr
100 105 110
Val Asp Glu Asp Arg Gly Asn Arg Asp Ala Asn Phe Pro Thr Glu Glu
115 120 125
Val Leu Val Glu Asp Val Asp Asp Glu Glu Glu Asp Glu Asp Glu Gly
130 135 140
Asn Arg His Ser Cys Glu Ser Glu Asp
145 150

<210> 877
<211> 62
<212> PRT
<213> Eucalyptus grandis

<400> 877
Val Leu Arg Ala Gln Leu Met Glu Leu Thr Asp Arg Leu Arg Ser Leu
1 5 10 15
Asn Ser Val Leu Gln Val Val Glu Val Val Ser Gly Leu Ala Ile Asp
20 25 30
Ile Pro Glu Ile Pro Asp Pro Leu Met Asn Pro Trp Gln Leu Pro Cys
35 40 45
Pro Met Gln Pro Ile Thr Ala Ser Ala Asp Met Leu Gln Leu
50 55 60

<210> 878
<211> 135
<212> PRT
<213> Eucalyptus grandis

<400> 878
Leu Thr Leu Thr Ala Ala Ser Thr Val Ile Phe Ala Glu Leu Ser Trp
1 5 10 15
Thr Pro Gly Asp Leu Ile Gln Ala Glu Asp Arg Ala His Arg Ile Gly
20 25 30
Gln Val Ser Ser Val Asn Ile Tyr Tyr Leu Leu Ala Asn Asp Thr Val
35 40 45
Asp Asp Ile Ile Trp Asp Val Val Gln Ser Lys Leu Glu Asn Leu Gly
50 55 60
Gln Val Leu Asp Gly His Glu Asn Thr Leu Glu Val Ser Ala Ser Gln
65 70 75 80
Pro Thr Arg Asn Ser Pro Ala Lys Gln Lys Thr Phe Asn Ser Pro Gly
85 90 95
Lys Gln His Thr Phe Asn Ser Pro Gly Lys Gln Gln Lys Phe Asn Ser
100 105 110
Pro Gly Lys Gln Thr Thr Leu Asp Ser Phe Met Lys Arg Cys Asn Ser
115 120 125
Gly Asp Pro Ser Glu His Gln
130 135

<210> 879

<211> 138
<212> PRT
<213> Eucalyptus grandis

<400> 879

Met Ala Leu Glu Ala Ile Asn Ser Pro Thr Ala Ala Ser Ala Pro Phe
1   5   10   15
Gln Phe Met Glu Glu Pro Leu Ser Ser Arg Phe Leu Glu Pro Leu Asn
            20   25   30
Lys Arg Lys Arg Ser Lys Arg Pro His His Pro Pro Ser Glu Asp Glu
        35   40   45
Tyr Leu Ala Leu Cys Leu Ile Met Leu Ala Arg Ser Gly Ala Ala Pro
    50   55   60
Lys Pro Asn His His Ala Ser Pro Ala Pro Leu Pro Pro Pro Pro Pro
65   70   75   80
Pro Ala Pro Thr Lys Pro Glu Glu Ala Ala Ala Thr Ala Thr Ala Thr
                85   90   95
Ala Ala Pro Ala Asn Asn Leu Ser Tyr Lys Cys Ala Val Cys Gly Lys
            100   105   110
Gly Phe Pro Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His Arg
        115   120   125
Lys Ser Ala Ala Ala Ala Ala Ala Ala Ala
    130   135

<210> 880
<211> 124
<212> PRT
<213> Eucalyptus grandis

<400> 880

Ala Ile Ala Leu Val Leu Ala Lys Arg Glu Ile Ile Arg Ser Ile Gly
1   5   10   15
Thr Gly Leu Asp Trp Ser Ser Pro Ser Ala Gly Ser Ser Thr Ser Leu
            20   25   30
Pro Glu Ile Lys Gly Thr Leu Val Ile Cys Pro Val Val Ala Val Thr
        35   40   45
Gln Trp Val Gly Glu Ile Asn Cys Ser Thr Ala Gln Gly Ser Thr Lys
    50   55   60
Val Leu Val Tyr His Gly Ala Asn Arg Gly Lys Thr Ala Asp Gln Phe
65   70   75   80
Lys Asn Phe Asp Phe Val Val Thr Thr Tyr Ser Leu Val Glu Gly Glu
                85   90   95
Tyr Arg Lys Phe Val Met Pro Pro Lys Lys Lys Cys Ile Tyr Cys Gly
            100   105   110
Lys Leu Leu Tyr Lys Glu Lys Met Thr Val His Leu
        115   120

<210> 881
<211> 196
<212> PRT
<213> Eucalyptus grandis

<400> 881

Pro Asp Leu Pro Gly Asp Asp Leu Ala Leu Glu Phe Glu Glu Phe Asp
1   5   10   15
Phe Gln Ser Leu Phe Asp Glu Leu Ser Pro Asp Ala Ala Gly Leu Leu
            20   25   30

Asp Ala Ser Asp Val Asp Ala Ser Ser Pro Gly Ser Leu Ser Ser Trp
35 40 45
Ile Gly Glu Ile Glu Gly Met Leu Met Lys Asp Asp Glu Glu Ala Val
50 55 60
Ala Val Glu Pro Ser Gln Glu Val Phe Asp Arg Phe Phe Ala Gly Leu
65 70 75 80
Leu Val Asp Ser Pro Glu Gly Gly Pro Ala Glu Ala Thr Asp Gly Ala
85 90 95
Ser Asp Lys Glu Ser Asn Ser Ser Asp Gly Gly Gly Gly Gly Gly Gly
100 105 110
Glu Arg Asp Glu Lys Leu Val Val Gly Asp Asn Glu Leu Ser Glu Asp
115 120 125
Ala Asp Asp Asp Asp Pro Val Ser Lys Lys Gln Arg Arg Gln Leu Arg
130 135 140
Asn Lys Asp Ala Ala Ala Arg Ser Arg Glu Arg Lys Arg Ser Tyr Val
145 150 155 160
Lys Glu Leu Glu Met Lys Ser Lys Tyr Met Glu Gly Glu Cys Arg Arg
165 170 175
Leu Gly Arg Leu Leu Gln Cys Phe Val Ala Glu Asn Gln Ala Leu Arg
180 185 190
Leu Asn Leu Glu
195

<210> 882
<211> 102
<212> PRT
<213> Eucalyptus grandis

<400> 882
Val Ile Ser Ser Gln Ser Met His Leu Gly Val Leu Ala Thr Ala Ser
1 5 10 15
His Ala Val Thr Thr Gln Thr Leu Phe Val Val Tyr Tyr Lys Pro Arg
20 25 30
Thr Ser Gln Phe Ile Ile Ser Leu Asn Lys Tyr Leu Glu Ala Leu Asn
35 40 45
Asn Lys Phe Thr Val Gly Met Arg Phe Lys Met Arg Phe Glu Gly Glu
50 55 60
Asp Ser Pro Glu Arg Arg Phe Ser Gly Thr Ile Val Gly Val Glu Asp
65 70 75 80
Phe Ser Pro Gln Trp Asp Asn Ser Ser Trp Arg Ser Leu Lys Val His
85 90 95
Trp Asp Glu His Ala Ser
100

<210> 883
<211> 69
<212> PRT
<213> Eucalyptus grandis

<400> 883
Phe Asn Gln Leu Asp Pro Arg Ile Asn Arg Lys Pro Phe Ser Glu Glu
1 5 10 15
Glu Glu Glu Arg Leu Leu Thr Ala His Lys Leu Cys Gly Asn Lys Trp
20 25 30
Ala Met Ile Ala Arg Leu Phe Pro Gly Arg Thr Asp Asn Ala Val Lys
35 40 45
Asn His Trp His Val Ile Val Ala Arg Lys Gln Arg Glu Gln Ser Asn

50 55 60
Asn Ala Arg Gly Arg
65

<210> 884
<211> 74
<212> PRT
<213> Eucalyptus grandis

<400> 884
Gln Lys Tyr Phe Ile Arg Gln Ser Asn Val Ser Lys Arg Lys Arg Arg
1 5 10 15
Ser Ser Leu Phe Asp Ile Val Ala Glu Glu Ser Val Asp Val Pro Met
20 25 30
Gly Ser Arg Asp Phe Phe Ala Val Asp Glu Gln Gln Gln Glu Thr Glu
35 40 45
Val Asn Asp Ala Leu Gln Gln Leu Pro Pro Asp Val Asp Glu Glu Cys
50 55 60
Glu Ser Met Asp Ser Thr Asn Ser Asn Thr
65 70

<210> 885
<211> 61
<212> PRT
<213> Eucalyptus grandis

<400> 885
Ser Ser Ser Ser Arg His Glu Ser Arg His Pro Ile Pro Leu Leu Thr
1 5 10 15
Asn Gly Gln Pro Met Ser Gly Glu Ile Pro Cys Ala Ser Ile Asp Ser
20 25 30
Pro Ser Val Arg Thr Thr Ser Gly Pro Leu Gly Pro Phe Asp Lys His
35 40 45
Val His Ser Leu Pro Tyr Val Asp Pro Arg Gln Pro Val
50 55 60

<210> 886
<211> 142
<212> PRT
<213> Eucalyptus grandis

<400> 886
Ser Pro Pro Leu Ser Ala His Val Ala Ser His Lys Gly Leu His Gln
1 5 10 15
Ala Ser Lys Pro Lys Ile His Glu Cys Asn Ile Cys Gly Ser Glu Phe
20 25 30
Ala Ser Gly Gln Ala Leu Gly Gly His Met Arg Arg His Arg Ser Ala
35 40 45
Pro Pro Pro Thr Ala Thr Ser Ala Asp Ala Thr Ser Pro Thr Asn Pro
50 55 60
Pro Ala Ala Ala Ala Ile Thr Thr Glu Lys Ser Arg Asn Ile Leu Ser
65 70 75 80
Leu Asp Leu Asn Leu Pro Ala Pro Asn Gly Gly Gly Ser Pro Pro Pro
85 90 95
Ser Ala Pro Pro Pro Gly Glu Leu Glu Val Pro Ile Arg His Lys Ser
100 105 110
Thr Ala His His Thr Ser Leu Ala Arg Leu Gly Gly Leu Pro Leu Leu

115 120 125
Lys Lys Lys Glu Lys Thr Gly Ser His Val Asn Gln Cys Asn
130 135 140

<210> 887
<211> 139
<212> PRT
<213> Eucalyptus grandis

<400> 887
Ala Val Ser Asp Ile Asn Leu Val Ser Asn Ser Thr His Ser Ser Tyr
1 5 10 15
Glu Asp Gly Gly Ser Pro Arg Arg Ile Thr Ser Glu Ser Asp Pro Lys
20 25 30
Asp Ala Pro Met Gly Thr Glu Ser Leu Leu Ser Ala Pro Glu Ala Val
35 40 45
Glu Leu Ser Asp Thr Gly Thr Ser Phe Thr Phe Lys Met Asp Ser Ser
50 55 60
Met Gln Arg Lys Pro Pro Val Asp Glu Ser Pro Arg Met His Pro Leu
65 70 75 80
Pro Met Asn Leu Thr Thr Glu Glu Gly Asp Asn Asn Val Ser Cys Gln
85 90 95
Leu Asn Leu Ser Leu Ala Ser Ser Leu Leu Gln Val Asp His Ser Gln
100 105 110
Gln Phe Asn Arg Leu Asn Val Leu Gly Ser Glu Thr Ser Lys Ser Pro
115 120 125
Asp Ala Arg Ser Asn Ala Ser Ile Thr Glu Ser
130 135

<210> 888
<211> 36
<212> PRT
<213> Eucalyptus grandis

<400> 888
His Pro Glu Tyr Asn Ser Ser Pro Val Gly Tyr Met Glu Thr Asn Lys
1 5 10 15
Ala Arg Leu Val Leu Glu Lys Asp Asp Leu Gly Leu Asn Leu Met Pro
20 25 30
Pro Ser Thr Cys
35

<210> 889
<211> 176
<212> PRT
<213> Eucalyptus grandis

<400> 889
Asn Ile Gly Ala Lys Ala Asp Val Phe His Ile Leu Ser Gly Met Trp
1 5 10 15
Lys Thr Pro Ala Glu Arg Cys Phe Met Trp Leu Gly Gly Phe Arg Ser
20 25 30
Ser Glu Leu Leu Lys Ile Leu Gly Asn His Leu Glu Pro Leu Thr Asp
35 40 45
Gln Gln Leu Met Gly Ile Cys Asn Leu Gln Gln Ser Ser Gln Gln Ala
50 55 60
Glu Asp Ala Leu Ser Gln Gly Met Glu Ala Leu Gln Gln Ser Leu Val

65   70   75   80
Asp Thr Leu Ser Ser Thr Thr Leu Ser Pro Thr Gly Ser Gly Asn Val
                85   90   95
Ala Glu Tyr Met Gly Gln Met Ala Ile Ala Met Gly Lys Leu Ala Thr
            100   105   110
Leu Glu Asn Phe Val His Gln Ala Asp Leu Leu Arg Gln Gln Thr Leu
        115   120   125
Gln Gln Met His Arg Ile Leu Thr Thr Arg Gln Ala Ala Arg Ala Leu
    130   135   140
Leu Val Ile Asn Asp Tyr Ile Ser Arg Leu Arg Ala Leu Ser Ser Leu
145   150   155   160
Trp Leu Ala Arg Pro Arg Thr Glu Asn Ile Cys Ser Ala Lys Leu Phe
                165   170   175

<210> 890
<211> 33
<212> PRT
<213> Eucalyptus grandis

<400> 890
Lys Lys Arg Leu Met Val Ala Ser Ala Phe Gly Glu Asp Glu Lys Ala
1   5   10   15
Gly Arg Gln Thr Arg Leu Thr Val Glu Asp Leu Asn Tyr Leu Phe Met
            20   25   30
Ala

<210> 891
<211> 51
<212> PRT
<213> Eucalyptus grandis

<400> 891
Met Arg Asp Leu Cys Leu Asp Gln Arg Glu Met Ala Ser Gly Ser Ser
1   5   10   15
Arg Val Glu Ala Arg Ala Asp Ala Glu Met Ala Leu Tyr Asn Glu Leu
            20   25   30
Trp Gln Ala Cys Ala Gly Pro Leu Val Ala Val Pro Arg Gln Gly Glu
        35   40   45
Arg Val Phe
    50

<210> 892
<211> 77
<212> PRT
<213> Eucalyptus grandis

<400> 892
Met Leu Ser Pro Ser Gly Ser Ser Pro Leu Ala Gln Ser Thr Gly Arg
1   5   10   15
His Pro Leu Tyr Arg Gly Val Arg Ser Arg Ser Gly Lys Trp Val Ser
            20   25   30
Glu Ile Arg Glu Pro Arg Lys Thr Thr Arg Ile Trp Leu Gly Thr Tyr
        35   40   45
Pro Asn Pro Glu Met Ala Ala Ala Ala Phe Asp Val Ala Ala Leu Ala
    50   55   60
Leu Lys Gly Ser Asp Ala Ala Leu Asn Phe Pro His Asp

65 70 75

<210> 893
<211> 95
<212> PRT
<213> Eucalyptus grandis

<400> 893
Phe Pro Gln Gly His Met Glu Gln Leu Glu Ala Ser Thr Asn Gln Glu
1 5 10 15
Leu Asn Gln Arg Ile Pro Leu Phe Asn Leu Thr Ser Lys Ile Leu Cys
20 25 30
Gln Val Val Asn Val Gln Leu Leu Ala Glu Gln Glu Thr Asp Glu Val
35 40 45
Tyr Ala Gln Ile Thr Leu Ile Pro Ala Gly Asn Leu Met Glu Pro Thr
50 55 60
Ser Pro Asp Pro Val Ser Ala Glu Thr Pro Arg Thr Arg Val His Ser
65 70 75 80
Phe Cys Lys Val Leu Thr Ala Ser Asp Thr Ser Thr His Gly Gly
85 90 95

<210> 894
<211> 79
<212> PRT
<213> Eucalyptus grandis

<400> 894
Met Gly Ser Asn Ile Asn Phe Lys Asn Phe Ser Thr Asp Pro Thr Pro
1 5 10 15
Thr Asn Asn Arg Pro Pro Gly Asn Thr Leu Leu Thr Arg Gln Pro Ser
20 25 30
Val Tyr Thr Leu Thr Phe Glu Glu Phe Gln Asn Ser Ile Gly Lys Asp
35 40 45
Phe Gly Ser Met Asn Met Asp Glu Leu Ile Lys Asn Ile Trp Ser Ala
50 55 60
Glu Glu Asn Gln Ser Met Ala Ser Ala Ser Gly Ala Cys Gly Gly
65 70 75

<210> 895
<211> 57
<212> PRT
<213> Eucalyptus grandis

<400> 895
Met Gln Ala Cys Gly Ser Tyr Glu Tyr Ser Glu Gln Tyr His Asp Glu
1 5 10 15
Val Lys Pro Ala Tyr Gly Pro Gln Ile Ser Ala His Ser Gln Tyr Leu
20 25 30
Gly Tyr Asn Ser Leu Arg Leu Gly Leu Pro Leu Arg Val Ala Glu Glu
35 40 45
Pro Val Tyr Val Asn Ala Lys Gln Tyr
50 55

<210> 896
<211> 167
<212> PRT
<213> Eucalyptus grandis

<400> 896

Pro Asp Val Pro Leu Pro Ser Pro Ala Gly Asp Val Thr Asp Ala Glu
1 5 10 15
Trp Phe Tyr Val Met Ser Leu Thr Arg Ser Phe Ser Ala Gly Asp Gly
20 25 30
Ile Pro Gly Lys Ala Leu Ser Thr Gly Ser Leu Val Trp Leu Thr Gly
35 40 45
Ala Arg Glu Leu Glu Ser Tyr Lys Cys Asp Arg Ala Lys Glu Ala Glu
50 55 60
Leu His Gly Ile Arg Thr Met Val Cys Ile Pro Thr Gly Asp Gly Val
65 70 75 80
Leu Glu Leu Gly Ser Cys Asp Val Ile Pro Glu Asn Trp Gly Leu Val
85 90 95
Gln Arg Ala Lys Ser Leu Phe Gly Ser Asp Leu Leu Leu Pro Lys His
100 105 110
Pro Pro Pro Pro Pro Pro Pro Phe Gln Leu His His Asp His Ser Asp
115 120 125
Ile Ser Phe Ala Asp Ile Gly Ile Ile Ala Gly Val Gln Glu Asn Asp
130 135 140
Phe Ala Pro His Asp Asp His Glu Lys Lys Val Lys Lys Lys Gln Pro
145 150 155 160
Leu Val Glu Gly Ala Gly Gly
165

<210> 897
<211> 125
<212> PRT
<213> Eucalyptus grandis

<400> 897

Val Ala Gly Met Thr Arg Gly Arg Arg Asp Gly Ile Leu Lys Ser Glu
1 5 10 15
Lys Thr Arg His Val Val Lys Ile Gly Pro Met His Leu Lys Gly Val
20 25 30
Trp Ile Pro Tyr Glu Arg Ala Leu Glu Phe Ala Asn Arg Glu Lys Ile
35 40 45
Thr Glu Tyr Leu Tyr Pro Leu Phe Val His Asp Ile Gly Ala Leu Leu
50 55 60
Tyr His Pro Ser Asn Pro Ser Gly Ala Thr Ser Arg Ala Gly Asn Ala
65 70 75 80
Gln Asn Thr Leu Ala Ala Ile Asp Arg Arg Arg Asn Glu Ala Arg Met
85 90 95
Ala Ala Ser Ile Gln Gly Gln Ala Val Ser Gly Val Leu Val Ser Pro
100 105 110
Val Ala Gln Thr Ala Gly Gly Arg Pro Ser Val Asp Arg
115 120 125

<210> 898
<211> 120
<212> PRT
<213> Eucalyptus grandis

<400> 898

Asn Asn Leu Ser Leu Tyr Asp Asn Gly Val Gly Ser Thr Pro Arg Pro
1 5 10 15
Arg Ser Asn Ala Glu Gln Leu Ile Phe Arg Ala Ala Leu Gln Asp Leu

20 25 30
Ser Gln Pro Lys Ser Glu Glu Thr Pro Pro Asp Gly Ala Leu Ala Val
35 40 45
Pro Leu Leu Arg His Gln Lys Ile Ala Leu Ser Trp Met Val Lys Lys
50 55 60
Glu Thr Ala Ile Asn Cys Cys Gly Gly Ile Leu Ala Asp Asp Gln Gly
65 70 75 80
Leu Gly Lys Thr Val Ser Thr Ile Ala Leu Ile Leu Lys Glu Arg Pro
85 90 95
Pro Thr Phe Lys Gln Cys Gln Glu Asn Pro Lys Gln Glu Leu Gln Thr
100 105 110
Phe Asp Leu Asp Glu Asp Glu Asn
115 120

<210> 899
<211> 58
<212> PRT
<213> Eucalyptus grandis

<400> 899
Met Ser Leu Ser Ala Lys Ser Glu Ser Ile Gln Ile Arg Asp Val Trp
1 5 10 15
Asp Asp Asn Leu Asp Glu Glu Phe Ala Arg Ile Arg Glu Ile Val Asp
20 25 30
Asp Tyr Pro Tyr Val Ala Met Asp Thr Glu Phe Pro Gly Ile Val Val
35 40 45
Arg Pro Val Gly Asn Phe Lys Asn Ser Ser
50 55

<210> 900
<211> 94
<212> PRT
<213> Eucalyptus grandis

<400> 900
Met Ala Asp Ser Asp Asn Asp Ser Gly Gly His Asn Asn Ala Asn Ser
1 5 10 15
Glu Ser Ala Ala Ala Leu Ala Arg Glu Gln Asp Arg Phe Leu Pro Ile
20 25 30
Ala Asn Val Ser Arg Ile Met Lys Lys Ala Leu Pro Ala Asn Ala Lys
35 40 45
Ile Ser Lys Glu Ala Lys Glu Thr Val Gln Glu Cys Val Ser Glu Phe
50 55 60
Ile Ser Phe Ile Thr Gly Glu Ala Ser Asp Gly Ser Ser Ser Ile Gly
65 70 75 80
Gly Gly Gly Gly Gly Val Val Asn Ser Gly Gly Gly Ser Ala
85 90

<210> 901
<211> 169
<212> PRT
<213> Eucalyptus grandis

<400> 901
Lys Ile Asn Pro Asp Arg Trp Glu Phe Val Asn Gln Gly Phe Gln Lys
1 5 10 15
Gly Asn Lys His Leu Leu Lys Asn Ile Lys Arg Arg Cys Lys Phe Ser

20 25 30
Glu His Arg Lys Thr Ser Ser Ser Thr Val Thr Ser Asp Tyr Gln Lys
35 40 45
Ala Glu Asn Glu Val Glu Leu Asn Thr Leu Lys Lys Gly Gln Glu Val
50 55 60
Leu Lys Thr Arg Ser Leu Lys Leu Arg Glu Glu Arg Lys Ser Phe Gln
65 70 75 80
His Glu Ile Glu Gln Val Ala Glu Arg Val Arg His Ala Glu Cys Arg
85 90 95
Asn Gln Gln Ile Phe Leu Phe Leu Thr Lys Ala Ala Lys Ser Pro Asn
100 105 110
Phe Val His His Leu Ile Gln Lys Lys Ser Gln Lys Arg Asp Leu Glu
115 120 125
Thr Cys Glu Ser Ser Lys Lys Ser Lys Leu Leu Gly Ser Asp Ala Glu
130 135 140
Ala Thr Lys Phe Leu Asn Glu Ala Met Asp His Met Ile Lys Ser Pro
145 150 155 160
Asn Val Asp Cys Leu Arg Ile Ser Asp
165

<210> 902
<211> 266
<212> PRT
<213> Eucalyptus grandis

<400> 902
Gly Ile Leu Ala Ala Ala Ala His Ala Ala Ala Asn Asn Ser Pro Phe
1 5 10 15
Thr Ile Phe Tyr Asn Pro Arg Ala Ser Pro Ser Glu Phe Val Ile Pro
20 25 30
Leu Ala Lys Tyr Asn Lys Ala Phe Tyr Thr Gln Val Ser Leu Gly Met
35 40 45
Arg Phe Arg Met Met Phe Glu Thr Glu Glu Ser Gly Val Arg Arg Tyr
50 55 60
Met Gly Thr Ile Thr Gly Ile Ser Asp Leu Asp Ser Val Arg Trp Lys
65 70 75 80
Asn Ser Gln Trp Arg Asn Leu Gln Val Gly Trp Asp Glu Ser Thr Ala
85 90 95
Gly Glu Arg Pro Ser Arg Val Ser Met Trp Glu Ile Glu Pro Val Val
100 105 110
Thr Pro Phe Tyr Ile Cys Pro Pro Pro Phe Phe Arg Pro Lys Phe Pro
115 120 125
Arg Gln Pro Asp Asp Glu Ser Asp Val Glu Asn Ala Phe Lys Arg Ala
130 135 140
Met Pro Trp Leu Gly Asp Glu Phe Gly Ile Lys Asp Thr Pro Asn Ser
145 150 155 160
Ile Phe Pro Gly Leu Ser Leu Met Gln Trp Met Ser Met Gln Gln Ser
165 170 175
Asn Pro Leu Gln Ala Thr Gln Ser Gly Leu Leu Pro Pro Met Leu Ser
180 185 190
Ser Thr Gly Leu His Asn Asn Leu Gly Ile Asp Asp Pro Ser Lys Leu
195 200 205
Leu Ser Phe Gln Ala Pro Thr Gln Gly Leu Gln Phe Asn Lys Thr Asn
210 215 220
Pro Gln Asn Gln Val Ser Gln Leu Leu Gln Pro Ser Met Ala Trp Ser
225 230 235 240
Gln Gln His Gln Leu Gln Gln Leu Leu Gln Asn Pro Leu Gly His Gln

245 250 255
Gln Gln Gln Gln Gln Gln Gln Leu Gln Arg
260 265

<210> 903
<211> 101
<212> PRT
<213> Eucalyptus grandis

<400> 903
Val Pro Ser Met Lys Pro Glu Tyr Pro Val Pro Asn Gly Ile Gly Ala
1 5 10 15
Ser Asp Phe Gly Glu Ser Phe Arg Phe Gln Lys Val Leu Gln Gly Gln
20 25 30
Glu Asn Leu Gly Phe Gly Thr Pro Tyr Asp Gly Ile Glu Thr Gln Ser
35 40 45
His Arg Leu Ser Glu Val Arg Arg His His Pro Asp Asp Ser Gly Gly
50 55 60
Ser Glu Ala Ala Ala Thr Arg Asn Gly Ile Thr Asn Pro Ser Val Asn
65 70 75 80
Ala Ser Val Thr Tyr Lys Gly Met Gly Phe Gly Glu Ser Phe Arg Phe
85 90 95
Arg Glu Val Leu Gln
100

<210> 904
<211> 142
<212> PRT
<213> Eucalyptus grandis

<400> 904
Pro Pro Ser Pro Leu Leu Pro Pro Pro Ser Ile Pro Lys Thr Leu Leu
1 5 10 15
Arg Ile Asp Ser Gly Ser Pro Leu Arg Pro Pro Pro Pro Pro Ala Ala
20 25 30
Met Asp Ala Ala Pro Pro Gly Gly Gly Gly Gly Gly Gly Gly Pro Ala
35 40 45
Pro Phe Leu Leu Lys Thr Tyr Glu Met Val Asp Asp Ala Gly Thr Asp
50 55 60
Glu Ile Val Ala Trp Ser Ser Gly Lys Thr Ser Phe Val Val Trp Asn
65 70 75 80
Pro Pro Glu Phe Ala Arg Leu Leu Leu Pro Thr Tyr Phe Lys His Asn
85 90 95
Asn Phe Ser Ser Phe Ile Arg Gln Leu Asn Thr Tyr Gly Phe Arg Lys
100 105 110
Ile Asp Pro Glu Arg Trp Glu Phe Ala Asn Glu Glu Phe Val Lys Asp
115 120 125
Lys Lys His Leu Leu Lys Asn Ile His Arg Arg Lys Pro Ile
130 135 140

<210> 905
<211> 80
<212> PRT
<213> Eucalyptus grandis

<400> 905
Met Tyr Val Leu Glu Gly Val Thr Pro Cys Ile Gln Ser Met Gln Leu

1 5 10 15
Gln Ala Gly Asp Thr Val Thr Phe Ser Arg Met Asp Pro Glu Ala Lys
20 25 30
Leu Ile Met Gly Phe Arg Lys Ala Ser Thr Ser Met Met Gln Asp Ser
35 40 45
Gln Leu Ala Ala Val Ser Asn Gly Asn His Ser Ser Glu Ala Leu Ile
50 55 60
Ser Gly Gly Phe Glu Asn Val Pro Met Ile Ser Gly Tyr Ser Ser Leu
65 70 75 80

<210> 906
<211> 30
<212> PRT
<213> Eucalyptus grandis

<400> 906
Arg Thr Gly Lys Ala Glu Ser Glu Cys Leu Cys Pro Arg Asn Ser Gly
1 5 10 15
Leu Leu Asp Ala Leu Val His Glu Ser Lys Thr Met Ser Ser
20 25 30

<210> 907
<211> 69
<212> PRT
<213> Eucalyptus grandis

<400> 907
Met Asn Gln Val Ala Asp Arg Gln Ile Pro Phe Tyr Asn Leu Pro Ser
1 5 10 15
Lys Ile Leu Cys Arg Val Ile Asn Val Gln Leu Arg Ala Glu Pro Glu
20 25 30
Thr Asp Glu Leu Phe Ala Gln Val Thr Leu Leu Pro Val Pro Asn Gln
35 40 45
Asp Glu Thr Ala Val Glu Lys Glu Thr Gly Ile Pro Cys Leu Gln Arg
50 55 60
Pro Arg Val His Ser
65

<210> 908
<211> 60
<212> PRT
<213> Eucalyptus grandis

<400> 908
Thr Phe Met Gly Ile Cys Ser Leu Gln His Ser Ser Gln Gln Ala Glu
1 5 10 15
Glu Ala Leu Ser Gln Gly Leu Glu Gln Leu Gln Gln Ser Leu Val Asp
20 25 30
Thr Ile Ala Gly Gly Pro Ser Ile Glu Gly Met Gln Gln Met Ala Ile
35 40 45
Ala Leu Gly Lys Leu Thr Asn Leu Glu Gly Phe Val
50 55 60

<210> 909
<211> 139
<212> PRT
<213> Eucalyptus grandis

<400> 909
Ile Gly Tyr Pro Lys Met Pro Leu Gln Ala Ser Ile Ser Thr Gln Ser
1   5   10   15
Asp Phe Gln Ala Asp Gly Ser Gly His Gly Val Pro Ile Pro Gln Gly
            20   25   30
Ala Asp Ser Gly Ser Leu Gly Ile Ser Ala Leu Pro Thr Ile Gln Arg
        35   40   45
Asp Ser Gly Val His Val Lys Gln Thr Thr Ser Glu Ser Ser Arg Glu
    50   55   60
Asp Ser Asp Asp Glu Glu Phe Glu Gly Asp Thr Gly Thr Thr Glu Asn
65   70   75   80
Lys Asp Pro Ala Glu Val Arg Arg Ala Arg Arg Met Gln Ser Asn Arg
                85   90   95
Glu Ser Ala Arg Arg Ser Arg Arg Arg Lys Gln Glu His Met Ser Glu
            100   105   110
Leu Glu Asn Gln Val Glu His Thr Gly Leu Leu Lys Arg Leu Thr Asp
        115   120   125
Met Asn Gln Lys Tyr Asp Val Ala Ser Val Asp
    130   135

<210> 910
<211> 153
<212> PRT
<213> Eucalyptus grandis

<400> 910
Gly Thr Gly Gly Asn Trp Ile Ala Leu Pro Arg Lys Ala Gly Leu Lys
1   5   10   15
Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro
            20   25   30
Asp Ile Lys His Gly Gly Phe Thr Glu Glu Glu Asp His Val Ile Cys
        35   40   45
Thr Leu Phe Phe Thr Ile Gly Ser Arg Trp Ser Val Ile Ala Ser Lys
    50   55   60
Leu Pro Gly Arg Thr Asp Asn Asp Val Lys Asn Tyr Trp Asn Thr Lys
65   70   75   80
Leu Lys Lys Lys Leu Met Lys Gln Leu Ala Ser Leu Lys Thr Val Pro
                85   90   95
Glu Ser Asn Phe Asp Tyr Gln Val Cys Ala Gln Asn Ser Ala Ser Ile
            100   105   110
Asp Pro Glu Thr Lys Asn Arg Glu Tyr Ala Ala Asn Ser Met Gly Phe
        115   120   125
Pro Lys Gln Asn Phe Asn Pro Gly Ile Pro Thr Ser Asn Ser Ser Leu
    130   135   140
Leu Cys Pro Pro Ser Leu Thr Glu Val
145   150

<210> 911
<211> 118
<212> PRT
<213> Eucalyptus grandis

<400> 911
Thr Ser Cys Ala Asp Asn Cys Arg Leu Ser Leu Ser Leu Ile Gln Ala
1   5   10   15
Pro Val Phe Ser Ser Ile Leu Ser Lys Lys Leu Leu Cys Phe Phe Ser

20 25 30
Leu Ser Leu Ser Thr Met Ala Arg Pro Gln Gln Arg Tyr Arg Gly Val
35 40 45
Arg Gln Arg His Trp Gly Ser Trp Val Ser Glu Ile Arg His Pro Leu
50 55 60
Leu Lys Thr Arg Ile Trp Leu Gly Thr Phe Glu Thr Ala Glu Asp Ala
65 70 75 80
Ala Arg Ala Tyr Asp Glu Ala Ala Arg Leu Met Cys Gly Pro Arg Ala
85 90 95
Arg Thr Asn Phe Pro Tyr Asn Pro Asn Met Ser Gln Ser Leu Arg Arg
100 105 110
Ser Ser Ser Arg Arg His
115

<210> 912
<211> 88
<212> PRT
<213> Eucalyptus grandis

<400> 912
Met Glu Ala Ala Ala Ala Ala Ala Lys Val Val Gly Glu Ala Glu Glu
1 5 10 15
Leu Pro Lys Thr Ile Val Arg Arg Val Val Lys Glu Lys Leu Ser Arg
20 25 30
Cys Ser Asp Asp Gly Asp Val Ser Leu His Lys Asp Ala Leu Leu Ala
35 40 45
Phe Ser Glu Ser Ala Arg Ile Phe Ile His Tyr Leu Ser Ala Thr Ala
50 55 60
Asn Asp Ile Cys Lys Glu Ser Lys Arg Gln Thr Ile Asn Ala Asp Asp
65 70 75 80
Val Leu Lys Ala Leu Glu Glu Met
85

<210> 913
<211> 84
<212> PRT
<213> Eucalyptus grandis

<400> 913
Pro Val His Glu Gln Gly Gln Leu Arg Gly Val Asp Arg Leu Glu Gly
1 5 10 15
Ser His Trp Val Pro Ile Gly Trp Glu Arg Ile Ser Ala Leu Ala Gln
20 25 30
Thr Val Gln Val Asp Ala Gly Trp Gly Met Gln Leu Asp Ser Met Asp
35 40 45
Asp Asp Glu Asp Leu Thr Val Ala Asp Met Glu Thr Pro Tyr Trp Glu
50 55 60
Arg Pro Ala Gly Pro Ile Trp Trp Cys His Phe Ser Ala Gly His Pro
65 70 75 80
Ala Val Glu Ala

<210> 914
<211> 184
<212> PRT
<213> Eucalyptus grandis

<400> 914
Met Lys Pro Thr Ile Asp Leu Glu Val Glu Ala Val Ser Glu Asn Asp
1   5   10   15
Ser Glu Ile Ser Ser Gln Val Ala Ser Asn Leu Ser Asn Gln Glu Pro
            20   25   30
Ser Met Gly Pro Ser Asn Asp Ser Leu Ala Asn Ser Ser Tyr Leu Ile
        35   40   45
Ser Pro Ser Ala Val Gly Ser Gly Ser Glu Thr Val Phe Leu Asp Leu
    50   55   60
Ser Leu Gly Cys Ser Asn Asp Glu Ser Ser Gly Arg Asp Ser Val Gly
65   70   75   80
Val Ala Phe Ser Ser Thr Ser Glu Cys Ser Asn Glu Pro Glu Ser His
                85   90   95
Pro Ala Ala Ala Gly Pro Thr Thr Ser Arg Val Phe Ser Cys Asn Tyr
            100   105   110
Cys Gln Arg Lys Phe Phe Ser Ser Gln Ala Leu Gly Gly His Gln Asn
        115   120   125
Ala His Lys Arg Glu Arg Thr Leu Ala Lys Arg Ala Met Arg Met Gly
    130   135   140
Met Phe Ser Ser Gln Arg Tyr Ser Ser Leu Ala Ser Leu Pro Leu His
145   150   155   160
Gly Ser Pro Thr Val Arg Asp Leu Gly Ile Lys Ala His Ser Ser Val
                165   170   175
His Gln Val His Gln Gly Met Leu
            180

<210> 915
<211> 96
<212> PRT
<213> Eucalyptus grandis

<400> 915
Met Trp Asn Pro Ser Ala Ala Gln Glu Asp Asp Asp Ser Trp Glu Val
1   5   10   15
Arg Ala Phe Ala Glu Asp Thr Ser Asn Ile Met Gly Ala Thr Trp Pro
            20   25   30
Pro Arg Ser Tyr Thr Cys Ser Phe Cys Arg Arg Glu Phe Arg Ser Ala
        35   40   45
Gln Ala Leu Gly Gly His Met Asn Val His Arg Arg Asp Arg Ala Lys
    50   55   60
Leu His Gln Ser Gln Phe Arg Pro Leu Ala Asn Gln Asn Ser Pro Phe
65   70   75   80
Ala Ser Cys Ser Ser Pro Ser Ser Ser Thr Leu Leu Phe Pro Asn Gln
                85   90   95

<210> 916
<211> 176
<212> PRT
<213> Eucalyptus grandis

<400> 916
Met Ala Glu Leu Asp Tyr Cys Gln Thr Lys Ser Ser Pro Gly Ala Ala
1   5   10   15
Ala Thr Arg Leu Lys Leu Phe Gly Phe Asn Val Ser Asp Glu Glu Asp
            20   25   30
Ser Ala Val Ser Asp Pro Ile Thr Val Gly Ala Asn Gly Gly Gly Gly
        35   40   45

Gly Gly Gly Gly Lys Ala Thr Pro Ser Gly Ser Pro Glu Gly Ser Val
50 55 60
Pro Val Gly Gly Gly Gly Glu Arg Lys Tyr Glu Cys Gln Tyr Cys Cys
65 70 75 80
Arg Glu Phe Ala Asn Ser Gln Ala Leu Gly Gly His Gln Asn Ala His
85 90 95
Lys Lys Glu Arg Gln Gln Leu Lys Arg Ala Gln Leu His Ala Ser Arg
100 105 110
Asn Ala Ala Val Ser Ser Leu Val Arg Asn Pro Ile Ile Ser Ala Phe
115 120 125
Ala Thr Pro Pro His Leu Leu Ala Thr Val Gly Pro Val Val Val Thr
130 135 140
Gly Ala Ala Pro Thr Ser Pro Ser Trp Val Tyr Val Pro Arg Gly Ala
145 150 155 160
Pro Pro Phe Gln Val Ser His Gly Cys Val Phe Thr Thr Gly Gln Gly
165 170 175

<210> 917
<211> 138
<212> PRT
<213> Eucalyptus grandis

<400> 917
Glu His Gln Ser Asn Pro Trp His Gln Ser Ser Ser Ala Ala Asn His
1 5 10 15
Arg Gln Leu Asn Leu Glu Leu Ala Leu Glu Pro Cys Ser Pro Ser Ser
20 25 30
Ser Ser Ser Pro Ala Ser Leu His Pro Leu Ala Val Pro Ala Lys Asp
35 40 45
Asn Lys Leu Tyr Ser Cys Asn Phe Cys Gln Lys Lys Phe Tyr Ser Ser
50 55 60
Gln Ala Leu Gly Gly His Gln Asn Ala His Lys Leu Glu Arg Thr Leu
65 70 75 80
Ala Lys Lys Ser Arg Asp Leu Cys Ser Ala Ala Lys Pro Pro Ala Ala
85 90 95
Thr Ser Asn Gly His His Val Arg Pro Ser Phe Gln Ser Val Val Tyr
100 105 110
Glu Asn Gln Pro Arg Leu Ala Arg His Val Gly Asp Asp Met Arg Tyr
115 120 125
Ala Gly Thr Asn Pro Leu Tyr Gly Ser Ser
130 135

<210> 918
<211> 68
<212> PRT
<213> Eucalyptus grandis

<400> 918
Gln Leu Ser Ser Val Asp Arg Glu Ala Arg Val Leu Arg Tyr Arg Glu
1 5 10 15
Lys Arg Lys Asn Arg Lys Phe Glu Lys Thr Ile Arg Tyr Ala Ser Arg
20 25 30
Lys Ala Tyr Ala Glu Thr Arg Pro Arg Ile Lys Gly Arg Phe Ala Lys
35 40 45
Arg Ala Asp Ile Glu Ala Glu Ala Glu Arg Met Phe Gly Phe Gly Val
50 55 60
Val Pro Ser Phe

65

<210> 919
<211> 224
<212> PRT
<213> Eucalyptus grandis

<400> 919
Arg Gly Pro Trp Thr Val Glu Glu Asp Leu Thr Leu Val Asn Tyr Ile
1 5 10 15
Ala Asn His Gly Glu Gly Arg Trp Asn Ser Leu Ala Arg Ser Ala Gly
20 25 30
Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
35 40 45
Arg Pro Asp Val Arg Arg Gly Asn Ile Thr Leu Glu Glu Gln Leu Leu
50 55 60
Ile Leu Glu Leu His Ser Arg Trp Gly Asn Arg Trp Ser Lys Ile Ala
65 70 75 80
Gln His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg
85 90 95
Thr Arg Val Gln Lys His Ala Lys Gln Leu Lys Cys Asp Val Asn Ser
100 105 110
Lys Gln Phe Lys Asp Ala Met Lys Tyr Leu Trp Met Pro Arg Leu Val
115 120 125
Glu Arg Ile Gln Ala Ala Ser Ala Ser Val Ser Thr Ala Thr Val Ala
130 135 140
Ala Ala Ala Met Ala Ala Pro Pro Thr Met Ala Thr Thr Ala Ala Ser
145 150 155 160
Asn Ile Gly Gly Met Ala Phe Pro Pro Ala Leu Ala Gly Met Gly Gly
165 170 175
Asp Phe Arg Gly Gly Arg Val Asn Val Ala Pro Ser Tyr Ser Thr Pro
180 185 190
Glu Asn Ser Cys Thr Thr Ala Ser Ser Asp Ser Phe Gly Ala Gln Val
195 200 205
Ser Pro Val Ser Asp Leu Thr Asp Leu Asp Arg Val Leu Thr Leu Ser
210 215 220

<210> 920
<211> 286
<212> PRT
<213> Eucalyptus grandis

<400> 920
Met Ser Leu Trp Ala Asp Tyr Asp His Ala Ala Ala Thr Asp Leu Ser
1 5 10 15
Ala Phe Trp Pro Pro Pro Ala Thr Pro Pro Pro Pro Ala Pro Ala Pro
20 25 30
Pro Leu Ser Gln Glu Ser Leu Gln Arg Arg Leu Gln Ala Leu Ile Glu
35 40 45
Gly Ala Arg Gly Arg Asp Gly Glu Glu Gly Ala Gly Gly Pro Ala Ala
50 55 60
Ala Trp Thr Tyr Thr Ile Phe Trp Gln Ser Ser Gly Asp Tyr Ser Gly
65 70 75 80
Pro Val Leu Gly Trp Gly Asp Gly Tyr Tyr Lys Gly Asp Gly Arg Ala
85 90 95
Arg Ser Arg Gly Ser Ala Cys Ser Gln Ala Glu Gln Glu His Arg Lys
100 105 110

Lys Val Leu Arg Glu Leu Asn Ser Leu Ile Ser Gly Ala Pro Pro Ala
115 120 125
Asp Asp Ala Val Glu Glu Glu Val Thr Asp Thr Glu Trp Phe Phe Leu
130 135 140
Val Ser Met Thr Gln Ser Phe Ala Gly Gly Val Gly Leu Pro Gly Arg
145 150 155 160
Ala Tyr Phe Ser Ser Asn Pro Ala Trp Val Thr Gly Ala Glu Arg Leu
165 170 175
Gly Asn Cys Gly Cys Asp Arg Ala Arg Gln Ala Gln Ile Phe Gly Leu
180 185 190
Gln Thr Ile Ala Cys Val Pro Val Leu Asn Gly Val Val Glu Leu Gly
195 200 205
Ser Thr Glu Pro Ile Tyr Gln Ser Ser Asp Leu Ile Ser Gly Ile Arg
210 215 220
Gly Leu Phe Asn Phe His Glu Ser Glu Met Gly Cys Gly Gly Arg Val
225 230 235 240
Leu Asn Ser Glu His Asp Pro Ala Ser Leu Trp Ile Cys Asp Pro Pro
245 250 255
Val Thr Met Glu Ile Asn Asp Arg Pro Met Thr Phe Gln Ile Glu Asn
260 265 270
Pro Ser Ser Ser Ser Leu Thr Glu Ser Pro Ser Ala Ile Cys
275 280 285

<210> 921
<211> 101
<212> PRT
<213> Eucalyptus grandis

<400> 921
Met Val Pro Pro Phe Pro Thr Ala Glu Leu Pro Leu Asn Glu Asn Asp
1 5 10 15
Ser Gln Asp Met Val Ile Tyr His Val Leu Asn Glu Ala Met Ser Gln
20 25 30
Asn Asn Ser Ser Leu Pro His Pro Asn Gln Ser Gly Ser Pro Ser Ser
35 40 45
Gly Gly Ser Leu Glu Pro Ser Arg Gly Ile Thr Lys Lys His Tyr Arg
50 55 60
Gly Val Arg Arg Arg Pro Trp Gly Lys Phe Ala Val Arg Phe Ala Thr
65 70 75 80
Arg Tyr Ala Thr Gly Pro Glu Phe Gly Ser Gly His Ser Arg Gln Pro
85 90 95
Arg Arg Arg Arg Trp
100

<210> 922
<211> 139
<212> PRT
<213> Eucalyptus grandis

<400> 922
Ile Gly Tyr Pro Lys Met Pro Leu Gln Ala Ser Ile Ser Thr Gln Ser
1 5 10 15
Asp Phe Gln Ala Asp Gly Ser Gly His Gly Val Pro Ile Pro Gln Gly
20 25 30
Ala Asp Ser Gly Ser Leu Gly Ile Ser Ala Leu Pro Thr Ile Gln Arg
35 40 45
Asp Ser Gly Val His Val Lys Gln Thr Thr Ser Glu Ser Ser Arg Glu

50 55 60
Asp Ser Asp Asp Glu Glu Phe Glu Gly Asp Thr Gly Thr Thr Glu Asn
65 70 75 80
Lys Asp Pro Ala Glu Val Arg Arg Ala Arg Arg Met Gln Ser Asn Arg
85 90 95
Glu Ser Ala Arg Arg Ser Arg Arg Arg Lys Gln Glu His Met Ser Glu
100 105 110
Leu Glu Asn Gln Val Glu His Thr Gly Leu Leu Lys Arg Leu Thr Asp
115 120 125
Met Asn Gln Lys Tyr Asp Val Ala Ser Val Asp
130 135

<210> 923
<211> 222
<212> PRT
<213> Pinus radiata

<400> 923
Met Gly Gln Gln Ser Leu Ile Tyr Ser Phe Val Ala Arg Gly Thr Val
1 5 10 15
Val Leu Ala Glu Tyr Thr Glu Phe Lys Gly Asn Phe Thr Gly Ile Ala
20 25 30
Ala Gln Cys Leu Gln Lys Leu Pro Ala Ser Asn Asn Lys Phe Thr Tyr
35 40 45
Asn Cys Asp Asn His Thr Phe Asn Tyr Leu Val Glu Asp Gly Phe Ala
50 55 60
Tyr Cys Val Val Ala Asp Glu Ser Val Gly Arg Gln Val Pro Met Ala
65 70 75 80
Phe Leu Glu Arg Val Lys Glu Asp Phe Lys Arg Arg Tyr Gly Gly Gly
85 90 95
Arg Ala Asp Thr Ala Val Ala Asn Ser Leu Asn Arg Asp Phe Gly Ser
100 105 110
Lys Leu Lys Glu His Met Gln Tyr Cys Ile Asp His Pro Glu Glu Ile
115 120 125
Ser Lys Leu Ala Lys Val Lys Ala Gln Val Ser Glu Val Lys Gly Val
130 135 140
Met Met Asp Asn Ile Glu Lys Val Leu Asp Arg Gly Glu Lys Ile Glu
145 150 155 160
Leu Leu Val Asp Lys Thr Glu Asn Leu Arg Phe Gln Ala Gln Asp Phe
165 170 175
Gln Lys Lys Gly Thr Glu Leu Arg Arg Lys Met Trp Phe Gln Asn Met
180 185 190
Lys Val Lys Leu Ile Val Leu Gly Ile Val Val Ala Leu Ile Leu Ile
195 200 205
Ile Val Leu Ser Val Cys His Gly Phe Asn Cys Ser Lys Lys
210 215 220

<210> 924
<211> 105
<212> PRT
<213> Pinus radiata

<400> 924
Met Gly Arg Gly Lys Ile Glu Ile Lys Met Ile Glu Asn Thr Ala Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Lys Gly Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Leu Ser Val Leu Cys Asn Ala Glu Ile Ala Leu Ile Val Phe
35 40 45
Ser Asn Thr Gly Lys Leu His Asp Trp Ser Ser Ser Ser Met Lys Lys
50 55 60
Val Met Glu Lys Tyr Gln Lys Ser Asp Gln Gly Leu Gly Leu Met Asp
65 70 75 80
Tyr Gln Gln Gln Gln Leu Leu Cys Glu Met Lys Arg Ile Thr Lys Glu
85 90 95
Asn Glu Ser Leu Arg Ala Arg Leu Arg
100 105

<210> 925
<211> 102
<212> PRT
<213> Pinus radiata

<400> 925
Val Pro Ser Pro Leu Val Pro Thr Arg Glu Asn Tyr Phe Val Arg Tyr
1 5 10 15
Cys Lys Gln His Ser Asp Gly Ile Trp Ala Val Val Asp Val Ser Leu
20 25 30
Asp Thr Leu Arg Gly Asn Pro Gln Pro His Pro Asn Cys Pro Pro Ser
35 40 45
Thr Leu Arg Cys Arg Arg Arg Pro Ser Gly Cys Leu Ile Gln Glu Met
50 55 60
Pro Asn Gly Tyr Ser Lys Val Thr Trp Val Glu His Val Glu Val Asp
65 70 75 80
Glu Arg Ala Val His Arg Ile Tyr Asp Lys Leu Val Ser Thr Val Ser
85 90 95
Arg Arg Thr Pro Tyr Arg
100

<210> 926
<211> 176
<212> PRT
<213> Pinus radiata

<400> 926
Leu Ser Asn Ile Glu Pro Lys Gln Ile Lys Val Trp Phe Gln Asn Arg
1 5 10 15
Arg Cys Arg Glu Lys Gln Arg Lys Glu Ala Ser Arg Leu Gln Thr Val
20 25 30
Asn Arg Lys Leu Thr Ala Met Asn Lys Leu Leu Met Glu Glu Asn Asp
35 40 45
Arg Leu Gln Lys Gln Val Ser Gln Leu Val Tyr Glu Asn Gly Tyr Met
50 55 60
Arg Gln Gln Leu Gln Asn Ala Ser Val Ala Ala Thr Asp Thr Ser Cys
65 70 75 80
Glu Ser Val Val Thr Ser Gly Gln His Gln His Asn Pro Thr Pro Gln
85 90 95
His Pro Pro Arg Asp Ala Ser Pro Ala Gly Leu Leu Ser Ile Ala Glu
100 105 110
Glu Thr Leu Thr Glu Phe Leu Ser Lys Ala Lys Gly Ala Ala Val Asp
115 120 125
Trp Val Gln Met Pro Gly Met Lys Pro Gly Pro Asp Ser Ile Gly Ile
130 135 140
Val Ala Ile Ser Asn Thr Cys Asn Gly Val Ala Ala Arg Ala Cys Gly

145 150 155 160
Leu Val Gly Leu Asp Pro Thr Lys Val Ala Glu Ile Leu Lys Asp Arg
165 170 175

<210> 927
<211> 68
<212> PRT
<213> Pinus radiata

<400> 927
Ile Leu Pro Glu Gly Pro Pro Glu Ser Arg Ser Val Ile Asp Asn Arg
1 5 10 15
Gln Val Glu Gly Ser Ile Leu Thr Ile Ala Phe Gln Ile Leu Val Asn
20 25 30
Asp Leu Pro Ser Ala Lys Leu Thr Leu Glu Ser Val Glu Thr Val Asn
35 40 45
Asn Leu Ile Ser Cys Thr Ala Gln Arg Ile Lys Ala Ala Leu His Lys
50 55 60
Val Glu Asp Val
65

<210> 928
<211> 68
<212> PRT
<213> Pinus radiata

<400> 928
Met Gly Arg Ala Leu Gly Arg Thr Glu Ile Lys Arg Ile Glu Asn Glu
1 5 10 15
Val Ser Arg Asn Val Ser Phe Arg Lys Arg Arg Arg Gly Leu Leu Lys
20 25 30
Lys Ala Ala Glu Leu Ser Ile Leu Cys Asp Ala Thr Val Gly Val Val
35 40 45
Val Phe Ser Pro Ala Gly Lys Leu Ser Glu Tyr Ala Ser Thr Ser Glu
50 55 60
Ser Asn Gly Tyr
65

<210> 929
<211> 126
<212> PRT
<213> Pinus radiata

<400> 929
Ile Arg Asn Pro Thr Asn Arg His Ser Ser Phe Tyr Lys Arg Lys Gly
1 5 10 15
Gly Leu Leu Lys Lys Ala Phe Glu Leu Ala Val Leu Cys Asp Ala Glu
20 25 30
Val Ala Leu Ile Ile Phe Ser Glu Thr Gly Arg Ile Tyr Glu Phe Ala
35 40 45
Ser His Asp Asp Val Thr Thr Val Leu Ala Lys Tyr Arg Ile Gln Thr
50 55 60
Lys Thr Ala Gly Asn Ala Met Pro Ser Ser Leu Gln Lys Thr Glu Phe
65 70 75 80
Asp Gln Leu Gln Val Arg Met Leu Gln Glu Lys Ile Asp Asn Leu Glu
85 90 95
Lys Thr Lys Lys His Met Val Gly Glu Asn Leu Glu Ser Leu Thr Trp

100 105 110
Lys Glu Leu Gln Gln Val Glu Lys Lys Leu Ser Lys Ala Thr
115 120 125

<210> 930
<211> 90
<212> PRT
<213> Pinus radiata

<400> 930
Leu Phe His Pro Ala Arg Ile Gly Gly Phe Gly Gly Gly Gln Val Ile
1 5 10 15
Leu Pro Leu Ala His Thr Val Glu His Glu Glu Phe Leu Glu Val Ile
20 25 30
Lys Leu Glu Asn His Gly Leu Thr Gln Glu Glu Ala Leu Leu Ser Arg
35 40 45
Asp Met Phe Leu Leu Gln Leu Cys Ser Gly Leu Asp Glu Asn Ala Val
50 55 60
Gly Ala Cys Ala Glu Leu Val Phe Ala Pro Ile Asp Ala Ser Leu Ala
65 70 75 80
Asp Ser Ser Pro Leu Leu Pro Ser Gly Phe
85 90

<210> 931
<211> 138
<212> PRT
<213> Pinus radiata

<400> 931
Met Gly Arg Gly Arg Val Gln Leu Arg Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Thr Arg Gly Lys Leu Tyr Glu Phe Ala Ser Ser Ser Met Asn Lys
50 55 60
Thr Leu Glu Arg Tyr Glu Lys Cys Ser Tyr Ala Met Gln Asp Thr Thr
65 70 75 80
Gly Val Ser Asp Arg Glu Ala Gln Asn Trp His Gln Glu Val Thr Lys
85 90 95
Leu Lys Gly Lys Val Glu Leu Leu Gln Arg Ser Gln Arg His Leu Leu
100 105 110
Gly Glu Asp Leu Gly Pro Leu Asn Val Lys Glu Leu Gln Gln Leu Glu
115 120 125
Arg Gln Leu Glu Val Ala Leu Thr His Leu
130 135

<210> 932
<211> 161
<212> PRT
<213> Pinus radiata

<400> 932
Met Gly Gln Gln Ser Leu Ile Tyr Ser Phe Val Ala Arg Gly Thr Val
1 5 10 15
Val Leu Ala Glu Tyr Thr Gln Phe Thr Gly Asn Phe Thr Thr Ile Ala

20 25 30
Asn Gln Cys Leu Gln Lys Ile Pro Ala Ser Asn Asn Lys Phe Thr Tyr
35 40 45
Asn Cys Asp Arg His Thr Phe Asn Tyr Leu Val Glu Asp Gly Tyr Thr
50 55 60
Tyr Cys Val Val Ala Asp Glu Ser Val Gly Arg Gln Leu Pro Ile Ala
65 70 75 80
Phe Leu Glu Arg Ile Lys Asp Asp Phe Lys Lys Arg Tyr Gly Gly Gly
85 90 95
Lys Ala Asp Thr Ala Val Ala His Ser Leu Asn Lys Asp Phe Gly Pro
100 105 110
Lys Leu Lys Asp His Met Gln Tyr Cys Val Asp His Pro Glu Glu Ile
115 120 125
Asn Lys Leu Ala Lys Val Lys Ala Gln Val Ser Glu Val Lys Gly Val
130 135 140
Met Met Glu Asn Ile Glu Lys Val Leu Asp Arg Gly Glu Lys Ile Glu
145 150 155 160
Leu

<210> 933
<211> 54
<212> PRT
<213> Pinus radiata

<400> 933
Phe Pro Thr Gly Asn Gly Gly Thr Ile Glu Leu Leu Tyr Met His Thr
1 5 10 15
Tyr Ala Ala Thr Thr Leu Ala Ser Ala Arg Asp Phe Trp Thr Leu Arg
20 25 30
Tyr Thr Thr Val Leu Glu Tyr Gly Ser Leu Val Val Cys Glu Arg Ser
35 40 45
Leu Ser Gly Thr Gln Gly
50

<210> 934
<211> 123
<212> PRT
<213> Pinus radiata

<400> 934
Arg Arg Glu Ala Cys Cys Pro Gln Pro Ser Leu Met Ala Arg Ala Pro
1 5 10 15
His His His Gln Gln Gln Gln His His Gln His His Gln Gln Glu Ala
20 25 30
Ser Arg Met Val Thr Ser Leu Glu Val Asp Ile Asp Thr Ala Cys Ser
35 40 45
Ser Lys Pro Asn Asp Ser Ile Asp Ala Leu Lys Ser Lys Ile Ala Cys
50 55 60
His Pro His Tyr Pro Gln Leu Leu Ala Ala Tyr Met Asp Cys Gln Lys
65 70 75 80
Val Gly Ala Pro Pro Glu Val Val Thr Val Leu Asp Glu Ile Ile Gln
85 90 95
Glu Asn Gln Leu Gly Arg His Ser Gly Thr Met Asp Ile Gly Val Asp
100 105 110
Pro Glu Leu Asp Gln Phe Met Glu Ala Tyr Cys
115 120

<210> 935
<211> 113
<212> PRT
<213> Pinus radiata

<400> 935
Met Gly Arg Gly Lys Ile Glu Ile Lys Lys Ile Asp Asp Val Thr Ser
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Lys Met Gly Ile Phe Lys Lys Ala
            20   25   30
His Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Leu Ile Phe
        35   40   45
Ser Asn Thr Gly Arg Leu Tyr Asp Tyr Ala Ser Ser Arg Cys Met Glu
    50   55   60
Arg Thr Ile Glu Arg Tyr Glu Lys Cys Thr Lys Ala Ile Asn Cys Pro
65   70   75   80
Thr Ser Asp Pro Ile Val Glu Asn Lys Ser Pro Ile Gln Glu Gly Ile
                85   90   95
Glu Ile Leu Arg Gln Lys Leu Arg Ala Leu Gln Arg Leu Gln Arg Asn
            100   105   110
Leu

<210> 936
<211> 162
<212> PRT
<213> Pinus radiata

<400> 936
Val Gln Glu Val Ala His Ile Ala Asn Gly Ser His Pro Gly Asn Cys
1   5   10   15
Ile Ser Leu Leu Arg Val Asn Ala Cys Ser Thr Ser Gln Asn Val Glu
            20   25   30
Leu Ile Leu Gln Glu Ser Cys Thr Asp Ala Ser Gly Ser Val Ile Val
        35   40   45
Tyr Ala Pro Val Asp Val Pro Ala Ile Asn Ile Ala Met Ser Gly Glu
    50   55   60
Asp Pro Ser Tyr Ile Ala Leu Leu Pro Ser Gly Phe Ala Ile Leu Pro
65   70   75   80
Asp Gly Gln Asn Arg Ser Ser Thr Ser Ser Leu Leu Glu Gly Ala Asn
                85   90   95
Ser Ser Ser Asn Ser Ser Asn Ser Ser Gly Leu Asp Ser Pro Leu Thr
            100   105   110
Arg Gly Gly Ser Leu Leu Thr Val Ala Phe Gln Val Leu Val Ser His
        115   120   125
Leu Pro Thr Ala Lys Leu Gly Leu Asp Ser Val Thr Thr Ile Asn Asn
    130   135   140
Leu Ile Cys Asn Thr Val Gln Gln Ile Lys Ser Ala Leu His Cys Ala
145   150   155   160
Asp Val

<210> 937
<211> 114
<212> PRT
<213> Pinus radiata

<400> 937

Asn Arg Arg Ala Arg Thr Lys Trp Lys Arg Asn Glu Val Glu Cys Asp
1   5   10   15
Asn Leu Lys Arg Cys Cys Glu Ser Leu Arg Glu Glu Asn Arg Arg Leu
            20   25   30
Glu Lys Glu Val Gln Ser Leu Arg Ala Met Lys Val Pro Gln Ser Pro
        35   40   45
Asn Ser Met Pro Leu Ala Ala Ala Thr Leu Ala Met Cys Pro Ala Cys
    50   55   60
Glu Gly Leu Ala Ile Lys Asn Arg Gly Ala Ala Thr Ser Ser Thr Ala
65   70   75   80
Lys Ser Gln Gln Ser Leu Leu Thr Ile Met Gly Ile Gly Asp Val Asn
                85   90   95
Met Ile Ser Lys Asn Asn Gln Thr Pro Ser Met Gly Met Gly Asp Glu
            100   105   110
Met Asn

<210> 938
<211> 120
<212> PRT
<213> Pinus radiata

<400> 938

Met Leu Lys Thr Leu Glu Arg Tyr Gln Lys Cys Ser Tyr Val Leu Gln
1   5   10   15
Asp Ala Thr Val Ser Asp Arg Glu Ala Gln Asn Trp His Gln Glu Val
            20   25   30
Gly Lys Leu Lys Ala Lys Val Glu Leu Leu Gln Arg Ser Gln Arg His
        35   40   45
Leu Leu Gly Glu Asp Leu Gly Pro Leu Ser Ile Lys Glu Leu Gln Gln
    50   55   60
Leu Glu Arg Gln Leu Glu Val Ala Leu Thr His Val Arg Ser Arg Lys
65   70   75   80
Thr Gln Val Met Leu Glu Met Met Asp Glu Leu Arg Arg Lys Glu Arg
                85   90   95
Ile Leu Gln Glu Val Asn Lys Ser Leu Arg Lys Lys Leu Gln Glu Ala
            100   105   110
Glu Gly Gln Ala Phe Asn Ala Met
        115   120

<210> 939
<211> 110
<212> PRT
<213> Pinus radiata

<400> 939

Ser Asp Thr Ala Asn Ser Ser Glu Leu Leu Gly Ser Ser Arg Ser Asp
1   5   10   15
Gly Asp His Pro His His Gly His His Asp Gln Gln Gln Gln Gln Gln
            20   25   30
Glu Asn His Met Val Trp Gln Asn Ser Arg Leu Lys Ala Asp Val Leu
        35   40   45
Gln His Pro Leu Tyr Asp Gln Leu Leu Ala Ala His Val Ala Cys Leu
    50   55   60
Arg Ile Ala Thr Pro Val Asp Gln Leu Pro Lys Ile Asp Ala Gln Leu

65 70 75 80
Ala Gln Gln His His Val Val Ala Lys Tyr Ser Val Leu Gly Arg Asn
85 90 95
Gln Leu Leu Thr Gly Glu Glu Lys Glu Glu Leu Asp Arg Phe
100 105 110

<210> 940
<211> 86
<212> PRT
<213> Pinus radiata

<400> 940
Arg Asn Tyr Leu Gly Glu Tyr Thr Gly Glu Leu Ile Ser His Arg Glu
1 5 10 15
Ala Asp Lys Arg Gly Lys Ile Tyr Asp Arg Glu Asp Ser Ser Phe Leu
20 25 30
Phe Asn Leu Asn Asp Gln Tyr Val Leu Asp Ala Tyr Arg Lys Gly Asp
35 40 45
Lys Leu Lys Phe Ala Asn His Ser Pro Thr Pro Asn Cys Tyr Ala Lys
50 55 60
Val Ile Met Val Ala Gly Asp His Arg Val Gly Ile Phe Ala Lys Glu
65 70 75 80
Arg Ile Ala Ala Gly Glu
85

<210> 941
<211> 128
<212> PRT
<213> Pinus radiata

<400> 941
Met Gly Arg Gly Lys Ile Glu Ile Lys Met Ile Glu Asn Ala Thr Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Gly Gly Leu Lys Lys Lys Ala
20 25 30
Gln Glu Leu Ser Val Leu Cys Asn Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Ser Thr Gly Lys Leu His Glu Trp Ser Ser Ser Ser Ser Phe Phe
50 55 60
Met Leu Gln Lys Ser Met Lys Lys Ile Leu Glu Arg Tyr Gln Lys Ser
65 70 75 80
Glu Gln Gly Leu Gly Leu Met Asp Tyr Gln His Gln Gln Leu Leu Cys
85 90 95
Glu Met Arg Arg Ile Thr Lys Glu Asn Glu Ser Leu Gln Glu Arg Leu
100 105 110
Arg His Met Asn Gly Glu Glu Val Asn Ser Leu Lys Leu Pro Glu Leu
115 120 125

<210> 942
<211> 86
<212> PRT
<213> Pinus radiata

<400> 942
Ala Ile Cys Ser Ile Ser Phe His Pro Tyr Pro Lys Asp Ala Asp Lys
1 5 10 15
His Leu Leu Ala Arg Gln Thr Gly Leu Thr Arg Ser Gln Val Ser Asn

20 25 30
Trp Phe Ile Asn Ala Arg Val Arg Leu Trp Lys Pro Met Val Glu Glu
35 40 45
Met Tyr Met Glu Glu Leu Arg Glu Ala Glu Thr Gln Asn His Ala Ala
50 55 60
Asp Ser Lys Val Thr Thr Glu Ser Gly Gln Asn Asn Glu Glu Thr Val
65 70 75 80
Ser Lys Glu Gly Ala Gly
85

<210> 943
<211> 58
<212> PRT
<213> Pinus radiata

<400> 943
Gly Ala Gly Tyr Ser Ser Val Ser Gly Ile Asp Glu His Ala Ala Gly
1 5 10 15
Phe Cys Ser Gln Leu Val Phe Ala Pro Ile Asp Ala Ser Phe Ala Asp
20 25 30
Asp Ala Pro Leu Ala Ala Leu Trp Phe Pro Ser Asn Ser Ser Arg Ile
35 40 45
Trp Ile Arg Met Phe Leu Leu Gln Asn Gly
50 55

<210> 944
<211> 112
<212> PRT
<213> Pinus radiata

<400> 944
Asp Gly Gly Gly Arg Gly Ala Gly His Phe Val Met Glu Gln Phe Ile
1 5 10 15
Pro Glu Gln Ala Val Ile Ser Asp Ser Ser Ile Ser Ser Val Lys Thr
20 25 30
Glu Val Cys Ser Gly Ser Gly Gly Gln Phe Glu Leu Ile Arg Arg Lys
35 40 45
Glu Glu Gly Arg Cys Gly Arg Ala Tyr Ala Glu Pro Ser Phe Val Val
50 55 60
Thr Pro Leu Val Thr Ser Leu Pro Pro Gln Gln Gln Glu Gly Arg Met
65 70 75 80
Val Thr Ser Leu Ala Val Asp Met Asp Ser Ser Cys Ser Cys Lys Pro
85 90 95
Asn Glu Ala Asp Ala Met Arg Ala Lys Leu Phe Ala His Val His Tyr
100 105 110

<210> 945
<211> 134
<212> PRT
<213> Pinus radiata

<400> 945
Ala Arg Gly Lys Thr Gln Met Arg Lys Ile Glu Ser Ala Thr Ser Arg
1 5 10 15
Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Met Lys Lys Ala Tyr
20 25 30
Glu Leu Ser Val Leu Cys Asp Ala Gln Leu Gly Leu Ile Val Phe Ser

35 40 45
Pro Arg Gly Lys Val Tyr Glu Phe Ser Ser Thr Cys Met Gln Lys Met
50 55 60
Leu Ala Arg Tyr Glu Lys Cys Ser Glu Gly Ser Asp Thr Ser Thr Ser
65 70 75 80
Lys Glu Gln Asp Val Gln Cys Leu Lys Arg Glu Ser Ala Asn Met Glu
85 90 95
Glu Arg Ile Glu Ile Leu Glu Ser Met Gln Arg Lys Met Leu Gly Glu
100 105 110
Glu Leu Ala Ser Cys Ala Leu Lys Asp Leu Asn Gln Leu Glu Ser Gln
115 120 125
Val Glu Arg Gly Leu Arg
130

<210> 946
<211> 110
<212> PRT
<213> Pinus radiata

<400> 946
Ser Leu Val Trp Gly Ala Leu Lys Met Gly Lys Thr Lys Met Glu Ile
1 5 10 15
Lys Arg Ile Gln Asn Pro Ser Arg Arg Gln Val Thr Phe Ser Lys Arg
20 25 30
Lys Asn Gly Leu Leu Lys Lys Ala Phe Glu Leu Ser Val Leu Cys Asp
35 40 45
Ala Glu Val Ala Leu Ile Ile Phe Ser Glu Thr Gly Lys Ile Cys Glu
50 55 60
Phe Ala Ser His Asp Asp Met Ala Thr Ile Leu Glu Lys Tyr Arg Ile
65 70 75 80
Tyr Thr Glu Thr His Gly Asn Met Glu Ser Ser Ser Val Gln Ser Val
85 90 95
Lys Ile Gly Glu Ser Gln Leu Lys Ala Leu Arg Glu Lys Met
100 105 110

<210> 947
<211> 92
<212> PRT
<213> Pinus radiata

<400> 947
Lys Leu Pro Lys Glu Ala Arg Gln Lys Leu Leu Asp Trp Trp Thr Arg
1 5 10 15
Asn Tyr Lys Trp Pro Tyr Pro Ser Glu Ser Gln Lys Ile Ala Leu Ala
20 25 30
Glu Ser Thr Gly Leu Asp Gln Lys Gln Ile Asn Asn Trp Phe Ile Asn
35 40 45
Gln Arg Lys Arg His Trp Lys Pro Ser Glu Glu Met Gln Phe Val Val
50 55 60
Met Asp Ser Pro Asn Pro His Asn Ala Ala Phe Phe Leu Glu Gly His
65 70 75 80
Leu Arg Thr Asp Gly Thr Ala Phe Ser Met Asp Cys
85 90

<210> 948
<211> 155
<212> PRT

<213> Pinus radiata

<400> 948

```
Phe Ser Cys Val Ser Lys Ala Ala Met Ile Leu Ala Glu His Ser Glu
1               5                   10                  15
Gly Asp Ala Glu Leu Glu Glu Val Ala Gly Glu Cys Leu Glu Arg Val
            20                  25                  30
Pro Pro Leu His Ser Arg Phe Thr His Thr Thr Lys Arg Lys Met Tyr
        35                  40                  45
Ser Phe Leu Met Asp Gly Pro Phe Val Tyr Cys Ala Ile Val Asp Glu
    50                  55                  60
Ala Leu Gly Lys Pro Gln Val Phe Val Phe Leu Glu His Val Arg Asp
65                  70                  75                  80
Glu Phe Lys Lys Leu Leu Lys Asn Arg Gly Cys Glu Gly Leu Ser Ser
                85                  90                  95
Cys Cys Phe Asp Lys Glu Phe Gly Pro Val Tyr Lys Arg Leu Val Ala
            100                 105                 110
Pro Leu Val Gly Val Pro Gln Ile Glu Lys Asp Arg Leu Met Glu Glu
        115                 120                 125
Glu Ser Lys Ser Gln Pro Ala Lys Thr His Pro Val Gln Val Asn Asn
    130                 135                 140
Ser Pro Lys Asp Ser Leu Pro Val Tyr Asp Asn
145                 150                 155
```

<210> 949
<211> 165
<212> PRT
<213> Pinus radiata

<400> 949

```
Asp Gly Ser Leu Val Ile Cys Glu Arg Ser Leu Ser Ala Ala Gln Gly
1               5                   10                  15
Met Pro Met Val Ser Gln Ser Gln Ser Phe Val His Gly Glu Leu Leu
            20                  25                  30
Ser Ser Gly Tyr Leu Ile Arg Pro Cys Glu Gly Arg Gly Ala Leu Val
        35                  40                  45
Ile Met Val Asp His Arg Asn Leu Glu Ala Ser Ser Val Pro Glu Ala
    50                  55                  60
Leu Arg Pro Leu Tyr Glu Ser Ser Thr Phe Phe Ala Gln Lys Met Thr
65                  70                  75                  80
Val Glu Ala Ser Tyr His Leu Gln Gly Lys Val Gln Pro Glu Met Ile
                85                  90                  95
Ser Leu Ser Lys Lys Leu Gln Gln Pro Cys Asn Val Arg Ser Tyr Ser
            100                 105                 110
Gln Arg Leu Cys Arg Gly Phe Asn Glu Ala Val Asn Thr Leu Pro Asp
        115                 120                 125
Asp Gly Trp Met Ser Leu Ser Lys Asp Gly Leu Gly Asp Val Thr Ile
    130                 135                 140
Cys Glu Ser Phe Val Lys Leu Pro Glu Pro Asn Ala Ser Gln Ile Ala
145                 150                 155                 160
Tyr Val Asn Ser Met
                165
```

<210> 950
<211> 153
<212> PRT
<213> Pinus radiata

<400> 950
Arg Ala Leu Gln Gln Leu Gly Met Ile Gln Gln His Ala Trp Arg Pro
1   5   10   15
Gln Arg Gly Leu Pro Glu Arg Ser Val Ser Val Leu Arg Ala Trp Leu
            20   25   30
Phe Glu His Phe Leu His Pro Tyr Pro Lys Asp Ala Asp Lys His Met
        35   40   45
Leu Ala Arg Gln Thr Gly Leu Thr Arg Asn Gln Val Ser Asn Trp Phe
    50   55   60
Ile Asn Ala Arg Val Arg Leu Trp Lys Pro Met Val Glu Glu Met Tyr
65   70   75   80
Val Glu Glu Thr Lys Glu Ala Glu Val Asp His Gly Ser Asn Asp Lys
                85   90   95
Thr Gly Lys Glu Ser Gly Glu Lys Lys Glu Asp Ala Leu Ser Lys Glu
            100   105   110
Gly Ala Ala Gly Asn Asn Gly Asn Ile His Glu Gln Gln Ser Gly Lys
        115   120   125
Ile Ser Lys Leu Asp Asn Ile Ala Gln Asp Gly Gly Ala Asp Glu Lys
    130   135   140
Pro Ala Gly Val Pro Lys Ser Glu Asn
145   150

<210> 951
<211> 107
<212> PRT
<213> Pinus radiata

<400> 951
Met Asn Leu Met Glu Ser Phe Glu Ala Lys Gly Lys Gly Glu Lys Arg
1   5   10   15
Arg Thr Val Arg Gly Lys Thr Gln Leu Lys Arg Ile Glu Asn Gly Thr
            20   25   30
Ser Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys
        35   40   45
Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val
    50   55   60
Phe Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Asn Pro Ser Met Gln
65   70   75   80
Lys Met Leu Glu Arg Tyr Glu Lys Cys Ser Glu Gly Ser Asn Pro Thr
                85   90   95
Ser Thr Ala Lys Glu Gln Asp Val Gln Cys Leu
            100   105

<210> 952
<211> 217
<212> PRT
<213> Pinus radiata

<400> 952
Met Val Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Asp Thr Ser
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
            20   25   30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Ile Ile Phe
        35   40   45
Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Ser Pro Ser Met Glu Glu

50 55 60
Ile Leu Glu Lys Tyr Lys Lys Arg Ser Lys Glu Asn Gly Met Ala Gln
65 70 75 80
Thr Thr Lys Glu Gln Asp Thr Gln Tyr Ser Lys His Ser Lys Gln Lys
85 90 95
Leu Ala Asn Met Glu Glu Gln Ile Arg Ile Leu Glu Ser Thr Gln Arg
100 105 110
Lys Met Leu Gly Glu Gly Leu Glu Ser Cys Ser Met Ala Glu Leu Asn
115 120 125
Lys Leu Glu Ser Gln Ala Glu Arg Gly Leu Ser His Ile Arg Ala Arg
130 135 140
Lys Thr Glu Ile Leu Val Asp Gln Ile Glu Cys Leu Lys Arg Lys Glu
145 150 155 160
Arg Leu Leu Ser Glu Glu Asn Ala Leu Leu Ser Arg Lys Trp Val Asp
165 170 175
Arg Gln Ser Val Asp Gly Ser Gly Ser Thr Ser Ser Ser Ile Gly Leu
180 185 190
Gly Ser Ile Glu Gln Ile Glu Val Glu Thr Gln Leu Val Ile Arg Pro
195 200 205
Pro Asn Ala Gln Asp His Cys Ser Val
210 215

<210> 953
<211> 183
<212> PRT
<213> Pinus radiata

<400> 953
Met Glu Ser Glu Glu Asp Lys Ile Ser Pro Glu Asn Lys Lys Arg Arg
1 5 10 15
Leu Lys Thr Pro Gln Gln Val Glu Gly Leu Glu Ser Phe Tyr Ala Glu
20 25 30
His Lys Tyr Pro Ser Glu Ala Met Lys Ser Gln Leu Ser Glu Glu Leu
35 40 45
Gly Leu Thr Glu Lys Gln Val Gln Gly Trp Phe Cys His Arg Arg Leu
50 55 60
Lys Asp Lys Arg Leu Met Lys Glu Glu Ala Ser Asn Asn Gly Lys Gln
65 70 75 80
Asp Pro His Asn Gly Ile Met Gln Asp Ser Val Asn Gly Val Lys Gln
85 90 95
Asp Ser Ser Gly Ser Gly Lys Lys Ser Asp His Gln Arg His Ser Arg
100 105 110
Cys Lys Glu Val Glu Ser Gln Arg Phe Ala Asn Ala Met Asp Tyr Pro
115 120 125
Ala Ala Val Leu Ala Ser Glu Leu Arg Asp His Asp Leu Phe Lys Val
130 135 140
Asn His Asp Asn Glu Asp Thr Phe Ala Gly Ser Ser Ser Ala Ser Gln
145 150 155 160
Asp Arg Ser Ser Leu Gln Ser Gly Asn Pro Tyr Glu Ala Glu Ala Arg
165 170 175
Arg Arg Pro Phe Gln Asn Gly
180

<210> 954
<211> 105
<212> PRT
<213> Pinus radiata

<400> 954
Ala Leu Phe Gly Ala Val Gln Ser Leu Pro Val Phe Thr Phe Ala Asn
1   5   10   15
Gln Ala Gly Leu Asp Met Leu Glu Thr Thr Leu Val Ala Leu Gln Asp
            20   25   30
Ile Ser Leu Glu Lys Ile Leu Asp Asp Asn Gly Arg Lys Ser Phe Cys
        35   40   45
Ser Asp Ile Ala Gln Ile Met Gln Gln Gly Tyr Ala Tyr Leu Pro Ala
    50   55   60
Gly Val Cys Val Ser Ser Met Gly Arg Pro Ala Ser Tyr Asp Arg Ala
65   70   75   80
Ile Ala Trp Lys Val Leu Asn Asp Glu Glu Asn Pro His Cys Ile Ala
                85   90   95
Phe Met Phe Met Asn Trp Ser Phe Val
            100   105

<210> 955
<211> 85
<212> PRT
<213> Pinus radiata

<400> 955
Gln Arg Ile Trp His Glu Pro Ala Ser Asn Asn Lys Phe Thr Tyr Asn
1   5   10   15
Cys Asp Asn His Thr Phe Asn Tyr Leu Val Glu Asp Gly Phe Ala Tyr
            20   25   30
Cys Val Val Ala Asp Glu Ser Val Gly Arg Gln Val Pro Met Ala Phe
        35   40   45
Leu Glu Arg Val Lys Glu Asp Phe Lys Arg Arg Tyr Gly Gly Gly Arg
    50   55   60
Ala Asp Thr Ala Val Ala Asn Ser Leu Asn Arg Asp Phe Gly Ser Lys
65   70   75   80
Leu Lys Glu His Met
                85

<210> 956
<211> 119
<212> PRT
<213> Pinus radiata

<400> 956
Val Asn Ser Asn Gln Ser Asn Met Leu Ile Leu Gln Glu Ser Cys Thr
1   5   10   15
Asp Ala Ser Gly Ser Phe Val Ile Tyr Ala Pro Val Asp Ile Val Ala
            20   25   30
Met Asn Val Val Leu Ser Gly Gly Asp Pro Asp Tyr Val Ala Leu Leu
        35   40   45
Pro Ser Gly Phe Ala Ile Leu Pro Asp Gly Pro Lys Cys Met Ala Val
    50   55   60
Thr Asn Ser Gly Ile Asn Asp Leu Gly Ser Gly Gly Ser Leu Leu Thr
65   70   75   80
Val Ala Phe Gln Ile Leu Val Asp Ser Val Pro Thr Ala Lys Leu Ser
                85   90   95
Leu Gly Ser Val Ala Thr Val Asn Ser Leu Ile Ser Cys Thr Val Asp
            100   105   110
Arg Ile Lys Ala Ala Val Thr

115

<210> 957
<211> 90
<212> PRT
<213> Pinus radiata

<400> 957
Gln Leu Leu Phe His Leu Arg Ser Gln Ser Ile Ser Pro Leu Val Thr
1   5   10   15
Cys Leu Arg Ser His Arg Ala Pro Pro Trp Pro Thr Pro Ile Ser Trp
            20   25   30
Leu Cys Ile Ile Ile Arg Val Met Thr Glu Glu Gln Met Glu Thr Leu
        35   40   45
Arg Arg Gln Ile Cys Val Tyr Ser Thr Ile Gly Ser Gln Leu Val Glu
    50   55   60
Met His Arg Ala Met Ser Gln Gln Gln Ala Phe Phe Ser Gly Arg Leu
65   70   75   80
Cys Leu Trp Asp Asn Thr Cys Phe Met Ile
                85   90

<210> 958
<211> 103
<212> PRT
<213> Pinus radiata

<400> 958
Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
            20   25   30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
        35   40   45
Ser Ser Arg Gly Lys Leu Tyr Glu Phe Gly Ser Ala Gly Tyr Gly Ile
    50   55   60
Glu Ile Ser Gly Leu Phe Ser Gly Ile Leu Tyr Tyr Asn Ile Arg Val
65   70   75   80
Gly Glu Gly Cys Glu Gly Glu Lys Arg Gly Cys Lys Val Tyr Ser Val
                85   90   95
Ile Cys Phe Lys Gly Lys Ser
            100

<210> 959
<211> 63
<212> PRT
<213> Pinus radiata

<400> 959
Met Val Arg Gly Lys Ile Gln Met Lys Arg Ile Glu Asn Thr Ala Ser
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
            20   25   30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Met Ile Phe
        35   40   45
Ser Pro Gly Gly Lys Leu Tyr Glu Phe Ala Asn Thr Ser Met Glu
    50   55   60

<210> 960
<211> 60
<212> PRT
<213> Pinus radiata

<400> 960

```
Met Leu Leu Gln Asn Val Pro Pro Ala Leu Leu Val Arg Phe Leu Arg
 1               5                  10                  15
Glu His Arg Ser Glu Trp Ala Asp Cys Asn Ile Asp Ala Tyr Ser Ser
            20                  25                  30
Ala Thr Met Lys Ala Asn Ala Tyr Asn Val Pro Gly Ser Leu Gly Gly
        35                  40                  45
Ile Thr Gly Ser Gln Val Ile Leu Pro Leu Ala His
    50                  55                  60
```

<210> 961
<211> 52
<212> PRT
<213> Pinus radiata

<400> 961

```
Thr Ser Arg Leu His Phe Val Asp Gln Gln Leu Arg Gln Gln Arg Ala
 1               5                  10                  15
Leu Gln Gln Leu Gly Met Ile Gln Gln His Ala Trp Arg Pro Gln Arg
            20                  25                  30
Gly Leu Pro Glu Arg Ala Val Ser Ile Leu Arg Ala Trp Leu Phe Glu
        35                  40                  45
His Phe Leu His
    50
```

<210> 962
<211> 154
<212> PRT
<213> Pinus radiata

<400> 962

```
Ala Val Val Ile Trp Met Gly Asp Pro Glu Arg Thr Lys Met Pro Pro
 1               5                  10                  15
Ile Lys Ile Thr Ile Thr Ile Thr Ile Met Ile Thr Ser Ser Ser Arg
            20                  25                  30
Arg Gly Gly Asn Val Thr Thr Asp Thr Leu Leu Val Lys Phe Arg Arg
        35                  40                  45
Trp Lys Arg Cys Leu Arg Ser Val His Ile Leu Met Thr Asn Lys Gly
    50                  55                  60
Ser Gly Ser Ala Leu Asn Trp Ala Leu Lys Pro Arg Gln Val Lys Phe
65                  70                  75                  80
Trp Phe Gln Asn Arg Arg Thr Gln Met Lys Ala Gln Gln Asp Arg Ser
                85                  90                  95
Asp Asn Ala Ile Leu Arg Ala Glu Asn Glu Asn Leu Arg Asn Glu Asn
            100                 105                 110
Val Ala Leu Arg Glu Ala Ile Lys Asn Gly Ala Cys Pro Asn Cys Gly
        115                 120                 125
Gly Ser Thr Ser Leu Gly Glu Met Pro Gly Phe Asp Glu His His Phe
    130                 135                 140
Arg Ile Glu Asn Thr Arg Leu Lys Glu Glu
145                 150
```

<210> 963
<211> 143
<212> PRT
<213> Pinus radiata

<400> 963
Arg Ile Leu Lys Leu Glu Ile Pro Thr Ser Tyr Leu Val Cys Lys Ala
1   5   10   15
Arg Lys Met Gly Lys Lys Lys Val Glu Val Lys Leu Ile Gln Asn Pro
            20   25   30
Thr Ser Arg Gln Gly Cys Phe Tyr Asn Arg Lys Cys Gly Leu Leu Lys
        35   40   45
Lys Ala Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile
    50   55   60
Ile Phe Ser Gln Thr Gly Lys Ile Tyr Glu Phe Ala Ser His Asp Asp
65   70   75   80
Val Asn Ala Ile Leu Ala Lys Tyr Arg Ile Gln Thr Gly Thr Thr Thr
                85   90   95
Asn Ala Met Pro Ser Ser Leu Gln Asn Thr Glu Pro Glu Thr Leu His
            100   105   110
Glu Glu Thr Asn Met Leu Gly Lys Arg Lys Lys Val Glu Lys Leu His
        115   120   125
Glu Lys Ile Asn Met Leu Glu Lys Arg Gly Lys Asn Met Val Trp
    130   135   140

<210> 964
<211> 123
<212> PRT
<213> Pinus radiata

<400> 964
Asp His His Ala Val Glu Asp Arg Glu Leu Lys Asn His Leu Leu Arg
1   5   10   15
Lys Tyr Ser Gly Tyr Leu Ser Ser Leu Lys Gln Glu Phe Met Lys Lys
            20   25   30
Lys Lys Lys Gly Lys Leu Pro Lys Asp Ala Arg Gln Lys Leu Leu Asp
        35   40   45
Trp Trp Ser Leu His Asp Lys Trp Pro Tyr Pro Ser Glu Thr Glu Lys
    50   55   60
Ile Ala Leu Ala Glu Cys Thr Gly Leu Asp Gln Lys Gln Ile Asn Asn
65   70   75   80
Trp Phe Ile Asn Gln Arg Lys Arg His Trp Lys Pro Ser Glu Asp Met
                85   90   95
His Phe Met Val Met Asn Ser His Ser Pro His Ser Ala Ala Leu Tyr
            100   105   110
Val Glu Arg His Met Met Thr Glu Gly Tyr Leu
        115   120

<210> 965
<211> 71
<212> PRT
<213> Pinus radiata

<400> 965
Met Glu His Leu Asn Ala Ala Ala Ala Gln Ala Ser Ser Ser Leu Tyr
1   5   10   15
Gly Val Ser Met Ala Glu Tyr Gly Asp Val Gly Val Ser Ser Met Met

20 25 30
Ala Leu Met Thr Gln His Glu Pro His Glu Ser Glu Ser Thr Met Thr
35 40 45
Thr Ser Met Pro Ser Ser Phe Ser Ser Phe His Gly His Ala Glu Cys
50 55 60
Leu Leu Ser Ala Ala Met Phe
65 70

<210> 966
<211> 111
<212> PRT
<213> Pinus radiata

<400> 966
Met Gly Arg Gly Lys Ile Glu Ile Lys Lys Ile Glu Asn Ser Val His
1 5 10 15
Arg Gln Val Thr Phe Cys Lys Arg Arg Gly Gly Leu Met Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe
35 40 45
Ser Ser Arg Gly Lys Leu Tyr Glu Leu Gly Thr Ser Asn Asn Asn Asn
50 55 60
Asn Ser Met Arg Ser Ile Leu Glu Arg Tyr Gln Lys Cys Ser Gln Thr
65 70 75 80
Ala Lys His Met Asn Phe Ser Asn Asn Thr Ser Asp Glu Lys Met Lys
85 90 95
Gln Glu Ile Asn Leu Leu Lys His Lys Leu Ile Ser Thr Tyr Gln
100 105 110

<210> 967
<211> 106
<212> PRT
<213> Pinus radiata

<400> 967
Met Asn Tyr Glu Gln Arg Leu Ile Ala Ala Ala Arg Leu Ala Asp Asn
1 5 10 15
Leu Asn Ser Thr Thr Ala Lys Glu Phe Asp Ile Pro Ser Ala Glu Glu
20 25 30
Val Ala Glu Lys Cys Ser Glu Trp Gly Val Thr Ala Gln Leu Lys Ala
35 40 45
His Gln Ala Gln Gly Leu Ser Trp Leu Ile Arg Arg Tyr Ala Ile Gly
50 55 60
Val Asn Val Ile Leu Gly Asp Glu Met Gly Leu Gly Lys Thr Leu Gln
65 70 75 80
Ala Ile Ser Leu Leu Ala Tyr Leu Lys Asp Arg Arg Lys Cys Pro Gly
85 90 95
Pro Phe Leu Val Leu Cys Pro Leu Ser Val
100 105

<210> 968
<211> 257
<212> PRT
<213> Pinus radiata

<400> 968
Ser Val Asp Val Leu Thr Ala Phe Ser Thr Gly Asn Gly Gly Thr Ile

1 5 10 15
Glu Leu Leu Tyr Met Gln Met Tyr Ala Pro Thr Thr Leu Ala Ser Ala
20 25 30
Arg Asp Phe Trp Thr Leu Arg Tyr Thr Ser Val Leu Glu Asp Gly Ser
35 40 45
Leu Val Val Cys Glu Arg Ser Leu Ser Gly Thr Gln Gly Gly Pro Ser
50 55 60
Met Pro Ala Val Gln Gln Phe Val Arg Ala Glu Met Gln Pro Ser Gly
65 70 75 80
Tyr Leu Ile Arg Pro Cys Glu Gly Gly Gly Ser Leu Ile His Ile Val
85 90 95
Asp His Met Asp Leu Glu Pro Trp Ser Val Pro Glu Val Leu Arg Pro
100 105 110
Leu Tyr Glu Ser Ser Thr Val Leu Ala Gln Lys Val Thr Met Ser Ala
115 120 125
Leu Arg His Leu Arg Gln Ile Ala Gln Glu Ala Ser Ser Asp Val Val
130 135 140
Leu Gly Trp Gly Arg Gln Pro Ala Ala Leu Arg Thr Phe Ser Gln Arg
145 150 155 160
Leu Cys Lys Gly Phe Asn Glu Ala Val Asn Gly Phe Thr Asp Asp Gly
165 170 175
Trp Ser Leu Met Gly Asn Asp Gly Met Glu Asp Val Thr Ile Leu Val
180 185 190
Asn Ser Ser Pro Ser Lys Leu Phe Gly Gln Gln Phe Ala Ser Ser Asp
195 200 205
Gly Leu Pro Ala Leu Gly Gly Gly Ile Leu Cys Ala Lys Ala Ser Met
210 215 220
Leu Leu Gln Asn Val Pro Pro Ala Leu Leu Val Arg Phe Leu Arg Glu
225 230 235 240
His Arg Ser Glu Trp Ala Asp Ser Asn Ile Asp Ala Tyr Ser Ala Ala
245 250 255
Ser

<210> 969
<211> 135
<212> PRT
<213> Pinus radiata

<400> 969
Met Ala Met Glu Glu Arg Ser Gly Asp Leu Leu Lys Gly Cys Gly Leu
1 5 10 15
Ser Glu Asn Ala Leu Asp Ala Ile Ser Glu Gly Ser Ile Gln Asn His
20 25 30
Trp Ser Trp Ser Glu Val Lys Gln Leu Ser Val Thr Leu Leu Arg Ala
35 40 45
Leu Asp Ala Gly Ile Glu His Ser Leu Leu Gly Ser Met Met Ser Ile
50 55 60
Asp Arg Tyr Ala Ala Ala Glu Ser Phe His Arg Leu Ala Trp Ala Tyr
65 70 75 80
Ala His Val Pro Asp Leu His Ile Met Trp Leu Leu His Leu Cys Asp
85 90 95
Ala His Gln Glu Met Gln Ser Trp Ala Glu Ala Ala Gln Cys Ala Val
100 105 110
Ala Val Ala Gly Val Ile Met Gln Ala Leu Val Gly Arg Asn Asp Ala
115 120 125
Val Trp Gly Lys Glu His Val

130 135

<210> 970
<211> 128
<212> PRT
<213> Pinus radiata

<400> 970
Arg Gly Arg Val Gln Leu Arg Arg Ile Glu Asn Lys Ile Ser Arg Gln
1 5 10 15
Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Met Lys Lys Ala Ala Glu
20 25 30
Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser Asn
35 40 45
Lys Asp Lys Leu Tyr Glu Phe Ala Ser Ser Ser Met Thr Lys Ile Leu
50 55 60
Glu Arg Tyr Arg Lys Arg Ser Asn Leu Ile Gln Asp Ile Gly Lys Asp
65 70 75 80
Pro Gln Asn Ser Asp Ile Glu Leu Thr Arg Leu Lys Glu Glu Val Asp
85 90 95
Arg Leu Gln Arg Ser Arg Arg His Leu Leu Gly Glu Asp Leu His Gln
100 105 110
Leu Gly Ala Thr Asp Leu Gln His Leu Glu Gln Gln Leu Glu Glu Ala
115 120 125

<210> 971
<211> 147
<212> PRT
<213> Pinus radiata

<400> 971
Met Asp Ser Phe Glu Ala Lys Gly Lys Gly Glu Lys Arg Arg Thr Val
1 5 10 15
Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Ala Thr Ser Arg Gln
20 25 30
Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu
35 40 45
Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Met Val Phe Ser Pro
50 55 60
Arg Gly Lys Leu Tyr Glu Phe Ala Asn Pro Ser Met Gln Lys Met Leu
65 70 75 80
Glu Arg Tyr Glu Lys Cys Ser Glu Gly Ser Lys Thr Thr Ser Ile Ala
85 90 95
Lys Glu Glu Asp Pro Lys Ala Leu Lys Arg Glu Ile Ala Asn Met Glu
100 105 110
Glu Arg Ile Glu Ile Leu Glu Arg Thr Gln Arg Lys Met Leu Gly Glu
115 120 125
Glu Leu Ala Ser Cys Ala Leu Lys Asp Leu Asn Gln Leu Glu Ser Gln
130 135 140
Val Glu Arg
145

<210> 972
<211> 45
<212> PRT
<213> Pinus radiata

<400> 972

Met Glu Lys Gln Asn Ser Gly Glu Asp Ser Asp Ser Lys Gly Gln Leu
1   5   10   15
Asp Asn Gly Lys Tyr Val Arg Tyr Thr Asn Glu Gln Val Glu Thr Leu
            20   25   30
Glu Arg Ala Tyr Asn Glu Cys Ser Lys Pro Ser Thr Ser
        35   40   45

<210> 973
<211> 97
<212> PRT
<213> Pinus radiata

<400> 973

Met Gly Ala Phe Ala Leu Leu Ser Ser Trp Ile Asp Ala Ala Thr Asn
1   5   10   15
Pro Lys Tyr Arg Lys Lys Arg Lys Gln Phe Gln Thr Val Glu Leu Arg
            20   25   30
Val Arg Met Asp Cys Glu Gly Cys Glu Arg Lys Val Arg Asn Ala Leu
        35   40   45
Asn Ser Met Lys Gly Val Ser Ser Val Glu Val Glu Arg Lys Gln Tyr
    50   55   60
Lys Ala Thr Val Thr Gly Tyr Val Asp Ala Asn Lys Val Leu Lys Arg
65   70   75   80
Val Arg Gln Thr Gly Lys Lys Ala Glu Leu Trp Pro Tyr Lys Pro Tyr
                85   90   95
His

<210> 974
<211> 135
<212> PRT
<213> Pinus radiata

<400> 974

Phe Ser Asn Thr Trp Phe Ser Gly Asn Leu Leu Ala Pro Gly Ala Asn
1   5   10   15
Lys Gln Met His Leu Asp Ser Ser Ser Thr Gly Ala Pro Gly Leu Ser
            20   25   30
Asn Val Leu Ile Gly Ser Lys Tyr Leu Lys Ala Ala Gln Gln Leu Leu
        35   40   45
Asp Glu Val Val Asn Val Gly Lys Gly Ile Lys Pro Asp Ser Ala Lys
    50   55   60
His Gln Lys Ser Gln Ser Trp Ile Gly Thr Thr Ala Asn Lys Glu Asn
65   70   75   80
Ser Gly Ala Glu Gly Gly Gly Lys Asp Gly Ala Ala Ala Ala Pro Thr
                85   90   95
Trp Arg Ser Thr Ser Ala Gln Glu Thr Asn Asp Arg Pro Ser Glu Leu
            100   105   110
Ser Pro Ala Glu Arg Gln Glu Leu Gln Met Lys Lys Ala Lys Leu Val
        115   120   125
Ala Met Leu Asp Glu Val Asp
    130   135

<210> 975
<211> 93
<212> PRT

<213> Pinus radiata

<400> 975

Tyr Ser Glu Val Arg Thr Arg Ala Arg Phe Trp Arg Arg Lys Gly Arg
1   5   10   15
Val Arg Arg Phe Lys Tyr Thr Cys Lys Ser Ala Gly His Pro Ser Ile
            20   25   30
Arg Lys Arg Ile Lys Asp Gly Lys Gly Gln Pro Cys Arg Gln Tyr Thr
        35   40   45
Pro Cys Gly Cys Gln Leu Thr Cys Gly Lys Gln Cys Pro Cys Leu Arg
    50   55   60
Asn Gly Thr Cys Cys Glu Lys Tyr Cys Gly Cys Ser Lys Ser Cys Lys
65   70   75   80
Asn Arg Phe Arg Gly Cys His Cys Ala Lys Ser Gln Cys
                85   90

<210> 976
<211> 114
<212> PRT
<213> Pinus radiata

<400> 976

Ala Asp Glu Ser Leu Trp Ile Pro Asn Leu Asp Ala Gly Lys Glu Thr
1   5   10   15
Leu Ser Tyr Glu Glu Tyr Met Arg Gln Phe Pro Ser Thr Ile Thr Pro
            20   25   30
Lys Pro Ile Gly Leu Ala Thr Glu Ala Thr Arg Glu Thr Gly Met Val
        35   40   45
Ile Thr Asn Ser Leu Asn Leu Val Glu Thr Leu Met Asp Val Asp His
    50   55   60
Trp Lys Glu Met Phe Pro Cys Met Ile Ser Arg Ala Ala Thr Val Asp
65   70   75   80
Val Ile Ser Ser Gly Met Gly Gly Thr Arg Asn Gly Ala Leu Gln Leu
                85   90   95
Met Tyr Ala Glu Leu Gln Val Leu Ser Pro Leu Val Pro Ala Arg Glu
            100   105   110
Tyr Phe

<210> 977
<211> 148
<212> PRT
<213> Pinus radiata

<400> 977

Gln Ser Glu Asn Ile Met Ser Thr Arg Ile Pro Ser Ser Phe Ser Ser
1   5   10   15
Phe His Gly His Ala Asp Cys Leu Leu Ser Ala Ala Met Phe Gln Gly
            20   25   30
Ser Gln Gly Asp His Lys Leu Asn Pro Gln Pro Gly Met Asn Gln Gln
        35   40   45
Leu Val Ser Glu Gln Ser Ile Met Ser Asp Ser Ser Met Pro Phe Val
    50   55   60
Lys Thr Lys Ala Cys Ser Gly Leu Arg Asn Gln Phe Glu Phe His Arg
65   70   75   80
Glu Gln Pro Gly Asn Cys Tyr Thr Asp Gln Ser Ser Asn Ile Pro Leu
                85   90   95

Ser Pro Ile Val Thr Ser Leu Ala Ser Gln Ala Arg Gly Glu Ala Arg
100 105 110
Met Ile Pro Ser Leu Asp Ala Asn Ser Ala His Phe Asn Val Asp Asn
115 120 125
Glu Glu His Ala Ile Lys Ser Lys Ile Leu Ala His Pro Gln Tyr Pro
130 135 140
Ser Leu Leu Gly
145

<210> 978
<211> 107
<212> PRT
<213> Pinus radiata

<400> 978
Met Arg Asn Pro Ile Cys Thr Asn Cys Gly Gly Pro Ala Val Leu Gly
1 5 10 15
Glu Met Ser Phe Glu Glu Gln Gln Leu Arg Ile Glu Asn Ala Arg Leu
20 25 30
Lys Glu Glu Leu Asp Arg Leu Cys Ala Leu Ala Gly Lys Phe Phe Gly
35 40 45
Arg Pro Ile Pro Ser Met Pro Ser Val Pro Leu Met Pro Lys Ser Ser
50 55 60
Leu Asp Leu Gly Val Gly Gly Met Pro Thr Ser Leu Pro Ser Ala Ser
65 70 75 80
Ala Asp Leu Met His Gly Pro Ala Gly Gly Arg Thr Gly Asn Ile Ile
85 90 95
Gly Ile Glu Arg Ser Met Leu Ala Glu Leu Ala
100 105

<210> 979
<211> 251
<212> PRT
<213> Pinus radiata

<400> 979
Met Met Met Ser Gly Gly Arg Met Tyr Gly Gly Pro Asn Val Leu Val
1 5 10 15
Thr Ala Asn Glu Asn Ile Ser Arg Ser Ala Asp Ala Leu Glu Ala Leu
20 25 30
Leu Ser Ser Pro Val Phe Asn Gly Ser Arg Ser Val Ala Asn Leu Glu
35 40 45
Glu Val Ile Gly Asn Val Ser Lys Arg Ser Phe Tyr Asn Ser Phe Asp
50 55 60
Gln Glu Glu Thr Gly Asp Glu Asp Leu Asp Asp Cys Ile His Pro Pro
65 70 75 80
Glu Lys Lys Arg Arg Leu Thr Ala Asp Gln Val Gln Phe Leu Glu Arg
85 90 95
Ser Phe Glu Ile Glu Asn Lys Leu Glu Pro Glu Arg Lys Ile Gln Leu
100 105 110
Ala Lys Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Val Trp Phe Gln
115 120 125
Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Leu Glu Arg Asp Tyr Asp
130 135 140
Ile Leu Lys Ser Arg Tyr Glu Asn Leu Arg Val Asp Tyr Asp Ser Leu
145 150 155 160
Leu Lys Glu Lys Asp Lys Leu Arg Ala Glu Val Thr Phe Leu Thr Asp

165 170 175
Lys Leu His Asp Ser Asp His Glu Ala Leu Thr Lys Asp Ser Glu Ser
180 185 190
Ala Asp Lys Lys Val Tyr Pro Gln Pro Ala Ser His Ser Asp Cys Val
195 200 205
Gly Glu Pro Glu Arg Ser Thr Ala Ala Lys Asp Thr Pro Pro Gly Cys
210 215 220
Lys His Glu Asp Leu Leu Ser Ser Gly Thr Asp Ser Ser Gly Val Leu
225 230 235 240
Asp Glu Asp Ser Pro His His Val Asp Cys Gly
245 250

<210> 980
<211> 128
<212> PRT
<213> Pinus radiata

<400> 980
Lys Ile Glu Asn Thr Thr Ser Arg Gln Val Thr Phe Cys Lys Arg Lys
1 5 10 15
Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Leu Leu Cys Asp Ala
20 25 30
Glu Val Ala Leu Leu Ile Phe Ser Thr Ser Gly Arg Leu Tyr Glu Phe
35 40 45
Ala Asn Lys Ser Val Ser Ala Thr Thr Glu Arg Tyr Met Arg Thr Tyr
50 55 60
Ala Glu Asn Met Pro Gln Ser Arg Ala Leu Tyr Pro Asp Cys His His
65 70 75 80
Trp Gln Glu Glu Val Arg Lys Leu Thr Gln Gln Arg Asp Ser Leu Thr
85 90 95
Asn Ser Ile Arg Gln Ile Met Gly Glu Gly Leu Glu Ser Leu Ser Met
100 105 110
Lys Glu Leu Lys His Ile Gln Val Gln Leu Glu Lys Ser Ile Ser Cys
115 120 125

<210> 981
<211> 119
<212> PRT
<213> Pinus radiata

<400> 981
Tyr Thr Ala Glu Gln Val Glu Ala Leu Glu Arg Leu Tyr Asn Asp Cys
1 5 10 15
Pro Lys Pro Ser Ser Leu Arg Arg Gln Gln Leu Ile Arg Glu Cys Pro
20 25 30
Ile Leu Ser His Ile Glu Pro Lys Gln Ile Lys Val Trp Phe Gln Asn
35 40 45
Arg Arg Cys Arg Glu Lys Gln Arg Lys Glu Ala Ser Arg Leu Gln Thr
50 55 60
Val Asn Arg Lys Leu Thr Ala Met Asn Lys Leu Leu Met Glu Glu Asn
65 70 75 80
Asp Arg Leu Gln Lys Gln Val Ser Gln Leu Val Tyr Glu Asn Gly Tyr
85 90 95
Phe Arg Gln Gln Ile Gln Thr Val Ser Ile Thr Thr Thr Asp Thr Ser
100 105 110
Cys Glu Ser Val Val Thr Ser
115

<210> 982
<211> 85
<212> PRT
<213> Pinus radiata

<400> 982
Lys His Glu Phe Asp Val Arg Tyr Gln Lys Leu Glu Asp Lys Leu Tyr
1   5   10   15
Ile Ala Gln Leu Tyr Phe Pro Leu Ile Gly Leu Ile Leu Asp Glu Met
            20   25   30
Pro Val Phe Tyr Asn Leu Ser Thr Val Glu Lys Arg Glu Val Leu Ile
        35   40   45
Cys Ile Met Gln Ile Ile Arg Asn Leu Asp Asp Pro Ser Leu Ile Lys
    50   55   60
Ala Trp Gln Gln Ser Ile Ala Arg Thr Arg Leu Phe Phe Lys Leu Leu
65   70   75   80
Glu Glu Cys Leu Val
                85

<210> 983
<211> 96
<212> PRT
<213> Pinus radiata

<400> 983
Gly Leu Leu Val Thr Met Arg Leu Phe Ala Ala Thr Glu Pro Lys Arg
1   5   10   15
Val Phe Ala Val Thr Lys Arg Ile Phe Leu Leu Gly Phe Val Ser Phe
            20   25   30
Phe Leu Arg Glu Gly Leu Val Ala Ser Val Trp Leu Pro Val Ser Pro
        35   40   45
Gln Arg Leu Phe Asp Phe Leu Arg Asp Glu Arg Leu Arg Ser Lys Trp
    50   55   60
Asp Ile Leu Ser Asn Gly Gly Pro Met Gln Glu Met Ala His Ile Pro
65   70   75   80
Lys Gly Gln Asp Pro Arg Asn Cys Val Ser Leu Leu Arg Ala Ser Ile
                85   90   95

<210> 984
<211> 109
<212> PRT
<213> Pinus radiata

<400> 984
Leu Val Ser Leu Tyr Asn Asn His Leu Asn Gly Ile Leu Ala Asp Glu
1   5   10   15
Met Gly Leu Gly Lys Thr Val Gln Val Ile Ser Leu Ile Cys Tyr Leu
            20   25   30
Met Glu Gln Lys Asn Asp Arg Gly Pro Phe Leu Val Val Val Pro Ser
        35   40   45
Ser Val Leu Ser Gly Trp Leu Ser Glu Ile Ser Phe Trp Ala Pro Ser
    50   55   60
Ile Ser Lys Ile Ala Tyr Thr Gly Ser Pro Asp Asp Arg Arg Arg Leu
65   70   75   80
Phe Arg Glu Asn Ile Ser Gln Gln Lys Phe Asn Val Leu Leu Thr Thr
                85   90   95

Tyr Glu Tyr Leu Met Asn Lys Arg Ser Thr Lys Thr Glu
100 105

<210> 985
<211> 52
<212> PRT
<213> Pinus radiata

<400> 985
Pro Lys Asp Ala Asp Lys His Met Leu Ala Arg Gln Ala Gly Leu Thr
1 5 10 15
Arg Ser Gln Val Ser Asn Trp Phe Ile Asn Ala Arg Val Arg Leu Trp
20 25 30
Lys Pro Met Val Glu Glu Ile Tyr Met Glu Glu Ile Lys Glu Ala Glu
35 40 45
Leu Gly His Ser
50

<210> 986
<211> 101
<212> PRT
<213> Pinus radiata

<400> 986
Gln Gln Asp Asp Asp Ala Lys Val Tyr Glu Ser Pro Leu Arg Arg Lys
1 5 10 15
Asn Ala Glu Ala Pro Arg Thr Arg Trp Arg Phe Leu Pro Leu Glu Ser
20 25 30
Ala Leu Glu Asn Pro Tyr Gln Gly Leu Met Lys His Cys Thr Ser Leu
35 40 45
Leu Lys Thr Leu Met Asn His Lys Phe Gly Tyr Val Phe Asn Glu Pro
50 55 60
Val Asp Pro Val Ala Leu Gly Val Pro Asp Tyr Phe Thr Val Ile Thr
65 70 75 80
Ser Pro Met Asp Leu Gly Thr Ile Lys Ala Lys Leu Gln Asp Ser Val
85 90 95
Tyr Ser Ser Pro Leu
100

<210> 987
<211> 230
<212> PRT
<213> Pinus radiata

<400> 987
Cys Thr Gly Val Ala Ala Arg Ala Cys Gly Phe Ala Gly Leu Glu Pro
1 5 10 15
Ser Lys Val Ala Asp Ile Leu Lys Asp Arg Pro Ala Trp Leu His Asp
20 25 30
Cys Arg Arg Leu Asp Val Leu Thr Ala Phe Pro Thr Gly Lys Gly Gly
35 40 45
Ala Val Glu Leu Leu Tyr Thr Gln Met Tyr Ala Pro Thr Thr Leu Ala
50 55 60
Pro Ala Arg Asp Leu Leu Thr Leu Arg Tyr Thr Ser Leu Leu Glu Asp
65 70 75 80
Gly Ser Leu Val Val Cys Glu Arg Ser Leu Thr Gly Thr Gln Ser Gly
85 90 95

Pro Asn Met Pro Pro Val Gln His Phe Val Arg Ala Gln Met Leu Pro
100 105 110
Ser Gly Tyr Leu Ile Arg Pro Cys Glu Gly Gly Gly Cys Ile Ile His
115 120 125
Ile Val Asp His Met Asp Leu Glu Pro Trp Ser Val Pro Glu Val Ile
130 135 140
Arg Pro Leu Tyr Glu Ser Ser Ala Val Leu Ala Gln Lys Met Thr Ile
145 150 155 160
Thr Ala Leu Arg His Leu Arg Gln Val Ala Gln Glu Val Ser Gly Glu
165 170 175
Val Val Leu Gly Trp Gly Arg Gln Pro Ala Ala Leu Arg Ala Phe Ser
180 185 190
Gln Arg Leu Cys Arg Gly Phe Asn Asp Ala Val Asn Gly Phe Ala Asp
195 200 205
Asp Gly Trp Ser Leu Leu Gly Ser Asp Gly Val Glu Asp Val Ile Ile
210 215 220
Ala Ile Asn Ser Ser Pro
225 230

<210> 988
<211> 164
<212> PRT
<213> Pinus radiata

<400> 988
Gln Tyr Leu Arg Gln Gln Leu Gln Leu Leu His Ala Arg Ala Gly Asn
1 5 10 15
Asn Thr Arg Ser Leu Gln Gln Met Ala Val Thr Ala Asn Asp Thr Ser
20 25 30
Ser Asp Ser Val Val Thr Ser Gly Gln Arg Gln Gln His Ser Pro Gln
35 40 45
His Pro Pro Tyr Ser Val Ser Thr Ser Arg Leu Phe Phe Ile Ala Glu
50 55 60
Glu Thr Leu Thr Glu Phe Leu Ala Lys Ala Thr Gly Thr Ala Val Asp
65 70 75 80
Trp Ile Gln Met Pro Gly Met Lys Pro Gly Pro Asp Ser Ile Gly Val
85 90 95
Val Ala Val Ala His Ala Cys Gly Gly Val Ala Val Gln Ala Trp Gly
100 105 110
Val Val Ser Leu Glu Pro Ser Glu Val Ala Glu Ala Leu Arg Asp Lys
115 120 125
Val Ser Trp Leu Cys Asp Cys Arg Lys Met Glu Val Leu Gly Thr Phe
130 135 140
Asp Ser Thr Asp Gly Arg Lys Leu Glu Leu Leu His Thr Gln Met Tyr
145 150 155 160
Ala Pro Ile Thr

<210> 989
<211> 107
<212> PRT
<213> Pinus radiata

<400> 989
Met Gly Lys Thr Lys Met Glu Met Lys His Ile Gln Asn Pro Ser Arg
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Lys Asn Gly Leu Leu Lys Lys Ala

20 25 30
Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Glu Thr Gly Lys Ile Ser Glu Phe Ala Ser His Asn Asp Met Ala
50 55 60
Thr Ile Leu Glu Lys Tyr Arg Ile Tyr Thr Gln Thr Glu Thr Asp Gly
65 70 75 80
Asn Met Gly Ala Ser Ser Val Gln Ser Val Lys Gly Trp Phe Pro Asn
85 90 95
Phe Leu Glu Ile Ala Gly Phe Ser Val Cys Gly
100 105

<210> 990
<211> 68
<212> PRT
<213> Pinus radiata

<400> 990
Met Gly Arg Gly Pro Val Gln Leu Arg Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Ile Lys Lys Ala
20 25 30
Ser Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45
Ser Asn Lys Gly Lys Leu Tyr Glu Phe Ser Ser Ser Ser Met Thr Lys
50 55 60
Ile Leu Glu Arg
65

<210> 991
<211> 230
<212> PRT
<213> Pinus radiata

<400> 991
Leu Ser Leu Ser Pro Gln Gln Leu Ser Asn Ile Gln Leu Ser Cys Phe
1 5 10 15
Gln Asn Gln Pro Thr Asp Ser Glu Val Asn Cys Pro Ser Ile Ser Glu
20 25 30
Ala Thr Ser Gln Glu Asn Leu Asn Arg Ser Asp Arg Leu Thr Ser Lys
35 40 45
Leu Ser Gly Ser Leu Ser Ser Phe Arg Ala Ser Ser Arg Asp Gly Met
50 55 60
Leu Gly Thr Lys Phe Leu Gly Ser Val Asn Gly Pro Glu Cys Asn Lys
65 70 75 80
Pro Met His His Gly Thr Asn Ala Ile Gly Ala Ala Glu Leu Ser Asn
85 90 95
Thr Leu Thr Gly Ser Lys Tyr Phe Lys Ala Ala Gln Gln Leu Leu Asp
100 105 110
Glu Val Val Asn Val Gly Lys Gly Ile Lys Ser Asp Ser Val Asn His
115 120 125
Gln Lys Ser Gln Thr Trp Phe Gly Ala Ile Ser Asp Lys Lys Asn Ile
130 135 140
Ala Thr Glu Ala Thr Thr Asn Asp Arg Thr Thr Ser Ala Ile Thr Gly
145 150 155 160
Ala Ser Ile Ser Ala Glu Val Met Lys Asn Glu His Ala Phe Gly Leu
165 170 175

Thr Pro Ala Asp Arg Gln Glu Leu Gln Met Lys Lys Ala Lys Leu Val
180 185 190
Ala Met Leu Asp Glu Val Asp Arg Arg Tyr Arg Gln Tyr Tyr His Gln
195 200 205
Met Gln Ile Val Val Ser Ser Phe Glu Thr Ala Ala Gly Phe Gly Ala
210 215 220
Ala Lys Thr Tyr Thr Ser
225 230

<210> 992
<211> 76
<212> PRT
<213> Pinus radiata

<400> 992
Met Gly Arg Gly Lys Ile Glu Leu Lys Lys Ile Glu Ser Thr Ser Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Met Gly Leu Leu Lys Lys Ala
20 25 30
Gln Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Val Ile Ile Phe
35 40 45
Ser Asn Thr Gly Arg Leu Tyr Asp Phe Ser Ser Ser Ser Met Glu Lys
50 55 60
Met Ile Glu Thr Tyr Tyr Arg Phe Ile Glu Lys Asn
65 70 75

<210> 993
<211> 77
<212> PRT
<213> Pinus radiata

<400> 993
Val Thr Leu Phe Leu Val Leu Gln Val Leu Asp Arg Gly Glu Lys Ile
1 5 10 15
Glu Leu Leu Val Asp Lys Thr Glu Asn Leu Arg Phe Gln Ala Gln Asp
20 25 30
Phe Gln Lys Gln Gly Thr Gln Leu Arg Arg Lys Met Trp Phe Gln Asn
35 40 45
Met Lys Val Lys Leu Val Val Leu Gly Ile Val Phe Val Leu Ile Leu
50 55 60
Ile Ile Trp Leu Ser Ile Cys His Gly Phe Lys Cys His
65 70 75

<210> 994
<211> 110
<212> PRT
<213> Pinus radiata

<400> 994
Pro Asn Ser Arg Ser Asp Gly Asn Gly Lys Ala Asp Arg Ser Asp Ser
1 5 10 15
Met Gly Thr Glu Ala Arg Thr Arg Thr Arg Phe Trp Arg Arg Arg Gly
20 25 30
Arg Val Arg Arg Leu Lys Tyr Thr Trp Lys Ser Ala Gly His Pro Ser
35 40 45
Ile Lys Lys Arg Ile Ala Asp Ser Lys Asp Gln Pro Cys Arg Gln Phe
50 55 60

Thr Pro Cys Asp Cys Gln Ser Met Cys Gly Lys Gln Cys Pro Cys Leu
65 70 75 80
Arg Ser Gly Thr Cys Cys Glu Lys Tyr Cys Gly Cys Ser Lys Gly Cys
85 90 95
Lys Asn Arg Phe Arg Gly Cys His Cys Ala Lys Ser Gln Cys
100 105 110

<210> 995
<211> 293
<212> PRT
<213> Pinus radiata

<400> 995
Ala Ser Gln Phe Ser Gly Asn Asp Met Arg Asn Tyr Gly Ala Lys Glu
1 5 10 15
Val Thr Ser Gly Leu Ala Thr Gly Gly Gln Arg Pro Pro Ala Leu Gln
20 25 30
Leu Asn Leu Ala Ala Leu Asp Ser Ser Gly Asp Gly Ala Ala Ala Lys
35 40 45
Glu Lys Arg Thr Pro Lys Val Asn Pro Tyr Tyr Leu Asn Ser Glu Phe
50 55 60
Val Met Gly Lys Asp Lys Met Pro Pro Pro Pro Pro Asp Asn Lys Lys
65 70 75 80
Gly Gly Met Lys Arg Thr Ala Gln Gly Lys Ser Glu Ile Arg Glu Thr
85 90 95
Lys Arg Pro Val Ala Asp Pro Met Asn Gly Lys Ile Leu Gln Asp Val
100 105 110
Met Lys Gln Cys Gly Phe Leu Leu Ser Arg Leu Ile Lys His Lys His
115 120 125
Gly Trp Val Phe Lys Ala Pro Val Asp Thr Val Ala Leu Gly Leu His
130 135 140
Asp Tyr Asn Thr Ile Ile Lys Gln Pro Met Asp Leu Gly Thr Ala Lys
145 150 155 160
Ala Lys Leu Asn Ala Asn Glu Tyr Lys Ser Pro Gln Glu Phe Ala Gly
165 170 175
Asp Ile Arg Leu Thr Phe Asn Asn Ala Met Thr Tyr Asn Pro Asn Gly
180 185 190
His Glu Val His Ile Met Ala Glu Gln Met Leu Gln Phe Phe Glu Asp
195 200 205
Arg Trp Lys Pro Ile Cys Asp Arg Tyr Glu Glu Glu Lys Arg Lys Leu
210 215 220
Ser Trp Ser Val Asn Asp Gly Leu Leu Pro Gly Ala Ser Gln Asn Met
225 230 235 240
Lys Asn Phe Pro Phe Gly Glu Thr Pro Lys Lys Asn Leu Lys Lys Thr
245 250 255
Glu Pro Leu Leu Gly Leu Ser Pro Arg Pro Pro Pro Asn Ala Lys Ser
260 265 270
Lys Ala Asn Gln Thr Leu Arg Ala Pro Ala Pro Lys Lys Pro Lys Ala
275 280 285
Lys Asp Leu His Lys
290

<210> 996
<211> 144
<212> PRT
<213> Pinus radiata

<400> 996

Lys Phe Asp Ile Cys Val Thr Ser Phe Glu Met Ala Ile Lys Glu Lys
1   5   10   15
Thr Ala Leu Lys Arg Phe Ser Trp Arg Tyr Ile Ile Ile Asp Glu Ala
            20   25   30
His Arg Ile Lys Asn Glu Asn Ser Leu Leu Ala Lys Thr Met Arg Ile
        35   40   45
Tyr Ser Thr Asn Tyr Arg Leu Leu Ile Thr Gly Thr Pro Leu Gln Asn
    50   55   60
Asn Leu His Glu Leu Trp Ser Leu Leu Asn Phe Leu Leu Pro Glu Ile
65   70   75   80
Phe Ser Ser Ala Glu Thr Phe Asp Asp Trp Phe Gln Ile Ser Ala Asp
                85   90   95
Asn Asp Gln Gln Glu Val Val Gln Gln Leu His Lys Val Leu Arg Pro
            100   105   110
Phe Leu Leu Arg Arg Leu Lys Ser Asp Val Glu Lys Gly Leu Pro Pro
        115   120   125
Lys Lys Glu Thr Ile Leu Lys Val Gly Met Ser Gln Met Gln Lys Gln
    130   135   140

<210> 997
<211> 81
<212> PRT
<213> Pinus radiata

<400> 997

Met Gly Arg Gly Lys Ile Glu Thr Lys Lys Ile Glu Asn Ser Val Arg
1   5   10   15
Arg Gln Val Thr Phe Trp Lys Arg Arg Gly Gly Leu Met Lys Lys Ala
            20   25   30
Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
        35   40   45
Ser Gly Arg Gly Lys Leu Tyr Glu Leu Glu Thr Ser His Ser Asn Arg
    50   55   60
Asn Lys Tyr Ala Pro Tyr Ser Thr Ser Thr Thr His Gln Cys Arg Trp
65   70   75   80
Phe

<210> 998
<211> 114
<212> PRT
<213> Pinus radiata

<400> 998

Tyr Tyr Leu Ile Val Ile Asp Ala Lys Val Ile Gln Ala Gly Leu Phe
1   5   10   15
Asn Asn Thr Ser Thr Ala Gln Asp Arg Arg Glu Met Leu Glu Glu Ile
            20   25   30
Met Arg Arg Gly Thr Asn Ser Leu Gly Thr Asp Val Pro Ser Glu Arg
        35   40   45
Glu Ile Asn Arg Leu Ala Ala Arg Ser Asp Glu Glu Phe Trp Leu Phe
    50   55   60
Glu Lys Met Asp Glu Glu Arg Arg Gln Lys Glu Gly Tyr Arg Ser Arg
65   70   75   80
Leu Met Glu Glu His Glu Val Pro Asp Trp Val Phe Ser Val Pro Thr
                85   90   95

Gly Lys Asn Asp Lys Gly Val Glu Asn Met Asp Ser Asn Leu Gly Phe
100 105 110
Asp Gln

<210> 999
<211> 183
<212> PRT
<213> Pinus radiata

<400> 999
Ala Asp Ser Pro His Phe Asn Glu Ala Asp Ala Ile Lys Ser Lys Ile
1 5 10 15
Leu Ala His Pro Gln Tyr Pro Asn Leu Leu Gly Ala Tyr Ile Asp Cys
20 25 30
Gln Lys Ile Gly Ala Pro Pro Glu Val Ala Ala Arg Leu Asp Ala Leu
35 40 45
Ser His Glu Tyr Glu Asn Gln Gln His Arg Ser Ser Leu Ser Ile Gly
50 55 60
Met Asp Pro Glu Leu Asp Gln Phe Met Glu Ala Tyr Cys Glu Met Leu
65 70 75 80
Thr Lys Tyr His Glu Glu Leu Thr Lys Pro Phe Lys Glu Ala Met Ser
85 90 95
Phe Leu Lys Lys Ile Glu Ala Gln Leu Asn Ser Leu Gly Lys Gly Thr
100 105 110
Ile Arg Ile Ser Pro Ser Ala Glu Asn Asp Glu Lys Thr Glu Gly Gly
115 120 125
Ala Ser Ser Glu Glu Val Glu Asp Gly Ser Gly Gly Glu Thr Asp Phe
130 135 140
Gln Glu Val Asp His His Ala Val Glu Asp Arg Glu Leu Lys Asp His
145 150 155 160
Leu Leu Arg Lys Tyr Ser Gly Tyr Leu Ser Ser Leu Lys Gln Glu Phe
165 170 175
Met Lys Lys Lys Lys Lys Lys
180

<210> 1000
<211> 122
<212> PRT
<213> Pinus radiata

<400> 1000
Cys Lys Asn Val Phe Thr Arg Leu Gln Gly Pro Val Lys Glu Gly Arg
1 5 10 15
His Thr Ala Leu Phe Met Glu Ile Pro Lys Arg Asn Glu Asn Pro Thr
20 25 30
Tyr Tyr Arg Leu Ile Glu Asn Pro Ile Asp Ala Arg Thr Ile Glu Gln
35 40 45
Arg Leu Asp Arg Phe Ser Tyr Gly Ser Val Leu Asp Phe Ala Ala Asp
50 55 60
Val Gln Leu Met Leu Glu Asn Ala Ile Arg Phe Tyr Gly His Ser Ser
65 70 75 80
Glu Val Lys Ala Asn Ala Arg Arg Leu Gln Ala Leu Phe Phe Gln Arg
85 90 95
Met Ala Asp Ser Phe Pro Asp Asp Asn Phe Ser Ser Phe Lys Thr Arg
100 105 110
Ser Leu Val Ala Leu Gly Gln Ser Ala Asn

115 120

<210> 1001
<211> 115
<212> PRT
<213> Pinus radiata

<400> 1001
Leu Val Asn Ser Gly Met Ala Phe Gly Ala Lys Arg Trp Ile Ala Thr
1 5 10 15
Leu Gln Arg Gln Cys Glu Arg Leu Ala Ser Val Leu Ala Ser Asn Ile
20 25 30
Pro Ser Arg Asp Leu Gly Val Ile Pro Ser Pro Glu Gly Arg Lys Ser
35 40 45
Ile Leu Lys Leu Ala Glu Arg Met Val Thr Ser Phe Cys Ala Gly Val
50 55 60
Ser Ala Ser Thr Ala His Thr Trp Thr Thr Leu Ser Gly Ser Gly Ala
65 70 75 80
Glu Asp Val Arg Val Met Thr Arg Lys Ser Val Asp Asp Pro Gly Arg
85 90 95
Pro Pro Gly Ile Ile Leu Ser Ala Ala Thr Ser Leu Trp Leu Pro Val
100 105 110
Pro Pro Lys
115

<210> 1002
<211> 130
<212> PRT
<213> Pinus radiata

<400> 1002
Leu Glu Ser Gln Phe Asp Gln Ser Phe Glu Tyr Pro Pro Val Glu Gln
1 5 10 15
Leu Val Lys Gln Cys Gly Lys Phe Gly Leu Leu Glu Arg Leu Leu Lys
20 25 30
His Leu Lys Ala Gln Lys His Lys Met Leu Ile Phe Ser Gln Trp Thr
35 40 45
Lys Val Leu Asp Leu Leu Glu Tyr Tyr Leu Ser Glu Arg Gly Tyr Glu
50 55 60
Val Cys Arg Ile Asp Gly Ser Val Lys Leu Glu Asp Arg Lys Asn Gln
65 70 75 80
Ile Arg Asp Phe Asn Asp Pro Asp Ser Asn Phe Cys Ile Phe Leu Leu
85 90 95
Ser Thr Arg Ala Gly Gly Leu Gly Ile Asn Leu Thr Asp Ala Asp Thr
100 105 110
Cys Phe Ile Tyr Asp Ser Asp Trp Asn Pro Gln Met Asp Met Gln Ala
115 120 125
Met Asp
130

<210> 1003
<211> 276
<212> PRT
<213> Pinus radiata

<400> 1003
Val Lys Leu Gly Thr Thr Asn Thr Trp Leu Ser Arg Ala Val Ser Gly

1   5   10   15
Gln His Arg Ala Gln Gln Gln Gln Gln Gln His Tyr Ala Glu Arg Ser
            20   25   30
Val Glu Glu Gly Arg Lys Trp Cys Gly Cys Ala Ala Gly Ser Arg Asp
        35   40   45
Cys Ile His Ser Asn Phe Leu Lys Leu Gln Asn Pro Ala Ser Ala Gly
    50   55   60
Ser Ser Ser Ala Ala Ala Asn Ala Leu Ser Gly Arg Trp Leu Met Pro
65   70   75   80
Gly Pro Leu Leu Asn Asp Lys Ile Glu Gly Arg Glu Gly Val Glu Leu
                85   90   95
Leu Gly Gly Glu Ile Pro Gly Glu Ser Ile Met Ala Leu Ser Ala Gln
            100   105   110
Phe Lys Thr Ala Gly Ser Ala Ala Pro Glu Arg Gly Leu Leu Asn Leu
        115   120   125
His Ser Ala Asp Ala Val Asn Ser Asn Gly Glu Pro Val Asp Ser Gly
    130   135   140
Gly Ala Gly Gly Asp Arg Asp Gly Gly Glu Glu Ala Glu Asp His Ala
145   150   155   160
Ala Leu Trp Gln Ser Ala Arg Ile Lys Ala Asp Ile Val Ser His Pro
                165   170   175
Leu Tyr Asp Gln Leu Leu Ser Ala His Leu Glu Cys Leu Arg Ile Ala
            180   185   190
Thr Pro Lys Asp Gln His Ser Met Ile Asp Ala Gln Leu Glu Gln Ser
        195   200   205
Gln His Val Val Thr Lys Tyr Ser Val Leu Gly Asn Asp Asn Phe Leu
    210   215   220
Val Gly Asp Lys Lys Glu Leu Asp Gln Phe Met Thr Gln Tyr Val Leu
225   230   235   240
Leu Leu Cys Ser Phe Lys Glu Gln Leu Gln Tyr His Val His Val His
                245   250   255
Val Met Glu Ala Val Arg Ala Cys Ile Asp Leu Gln His Ser Leu Leu
            260   265   270
Thr Leu Thr Gly
        275

<210> 1004
<211> 123
<212> PRT
<213> Pinus radiata

<400> 1004
Ser Cys Ala Val Gln Ser Gln Pro Ala Ala Ser Gly Thr Arg Trp Asn
1   5   10   15
Pro Thr Pro Asp Gln Ile Arg Ile Leu Glu Met Phe Tyr Lys Gly Gly
            20   25   30
Met Arg Thr Pro Asn Ala Glu Gln Ile Glu His Ile Thr Ala Gln Leu
        35   40   45
Arg Gln Tyr Gly Lys Ile Glu Gly Lys Asn Val Phe Tyr Trp Phe Gln
    50   55   60
Asn His Lys Ala Arg Glu Arg Gln Lys Gln Lys Arg Asn Ser Ser Met
65   70   75   80
His Gln Val Ala Ala Thr Ala Ala Lys Lys Thr Pro Thr Thr Ile Met
                85   90   95
Ala Asp Asn Pro Asn Glu Leu His Lys Pro Asn Ser Asn Gly Thr Tyr
            100   105   110
Ser Leu Tyr Asn Leu Pro Phe Thr Ala Met Ser

115 120

<210> 1005
<211> 90
<212> PRT
<213> Pinus radiata

<400> 1005
Met Gly Lys Thr Lys Met Glu Ile Lys Arg Ile Gln Asn Pro Ser Arg
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Lys Asn Gly Leu Leu Lys Lys Ala
20 25 30
Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Glu Thr Gly Lys Ile Cys Glu Phe Ala Ser His Asp Asp Met Ala
50 55 60
Thr Ile Leu Glu Lys Tyr Arg Ile Tyr Thr Glu Thr Asp Gly Asn Met
65 70 75 80
Glu Ser Ser Ser Val Gln Ser Val Lys Val
85 90

<210> 1006
<211> 123
<212> PRT
<213> Pinus radiata

<400> 1006
Met Ser Val Phe Glu Thr Gly Asn Glu Arg Lys Arg Pro Ala Gly Asn
1 5 10 15
Ser Tyr Ser Ala Leu Glu Leu Ser Asp Asp Ile Gly Asp Glu Asp Gly
20 25 30
Ser Asp Asp Cys Ile His Leu Gly Glu Lys Lys Arg Arg Leu Thr Leu
35 40 45
Glu Gln Val Arg Ala Leu Glu Lys Asn Phe Glu Met Ala Asn Lys Leu
50 55 60
Glu Pro Glu Lys Lys Met Gln Leu Ala Lys Ala Leu Gly Leu Gln Pro
65 70 75 80
Arg Gln Ile Ala Val Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr
85 90 95
Lys Gln Leu Glu Lys Asp Phe Asn Ile Leu Lys His Asp Tyr Asp Ser
100 105 110
Leu Lys Gln Asn Tyr Asp Asn Leu Met Glu Glu
115 120

<210> 1007
<211> 114
<212> PRT
<213> Pinus radiata

<400> 1007
Met Gly Lys Thr Lys Met Glu Met Lys His Ile Gln Asn Pro Ser Arg
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Lys Asn Gly Leu Leu Lys Lys Ala
20 25 30
Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Glu Thr Gly Lys Ile Ser Glu Phe Ala Ser His Asn Asp Met Ala

50 55 60
Thr Ile Leu Glu Lys Tyr Arg Ile Tyr Thr Gln Thr Glu Thr Asp Gly
65 70 75 80
Asn Met Gly Ala Ser Ser Val Gln Ser Val Lys Val Gly Glu Ser Gln
85 90 95
Leu Lys Ala Leu His Glu Arg Met Asp Asn Leu Lys Lys Lys Glu Arg
100 105 110
Asn Met

<210> 1008
<211> 90
<212> PRT
<213> Pinus radiata

<400> 1008
Met Ala Ser Asn Gly Ile Met Phe Asn Ala Ser Asn Arg Asn Leu Ile
1 5 10 15
Val Met Val Asn Glu Ala Pro Ser Phe Glu Ala Asn Ser Ser Leu Asp
20 25 30
Gly Val Met Lys Asn Val Ser Lys Arg Pro Phe Tyr Asn Thr Leu Asp
35 40 45
Ala Asp Glu Ala Gly Asp Glu Asp Leu Leu Asp Glu Cys Val His Gln
50 55 60
Pro Gly Lys Lys Arg Arg Leu Ser Val Glu Gln Val Arg Phe Leu Glu
65 70 75 80
Lys Ser Phe Glu Leu Asp Asn Lys Leu Glu
85 90

<210> 1009
<211> 107
<212> PRT
<213> Pinus radiata

<400> 1009
Leu Glu Arg Ser Ile Arg Gln Gln Arg Ala Phe His His Leu Gly Leu
1 5 10 15
Met Glu Gln His Pro Trp Arg Pro Gln Arg Gly Leu Pro Glu Arg Ser
20 25 30
Val Ser Val Leu Arg Ala Trp Leu Phe Glu His Phe Leu His Pro Tyr
35 40 45
Pro Thr Asp Ala Asp Lys His Ile Leu Ala Lys Gln Thr Gly Leu Thr
50 55 60
Arg Ser Gln Val Ser Asn Trp Phe Ile Asn Ala Arg Val Arg Leu Trp
65 70 75 80
Lys Pro Met Val Glu Glu Met Tyr Met Glu Glu Leu Lys Glu Glu Lys
85 90 95
Val Asp Gln Gly Thr His Asn Ser Glu Ala Glu
100 105

<210> 1010
<211> 126
<212> PRT
<213> Pinus radiata

<400> 1010
Met Asn Leu Asn Asp His Thr Tyr Asn Leu Ser Pro Met Ala Asn Ser

1 5 10 15
Gly Asn Pro Glu Glu Gln Ile Asp Glu Asp Ala Val Asp Asp Phe Met
20 25 30
Asn Tyr Gln Pro Glu Ser Lys Lys Arg Arg Leu Thr Val Glu Gln Val
35 40 45
Arg Ser Leu Glu Arg Ser Phe Glu Ile Glu Thr Lys Leu Glu Pro Glu
50 55 60
Lys Lys Ile Gln Leu Ala Gln Glu Leu Gly Leu Gln Pro Arg Gln Val
65 70 75 80
Ala Ile Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Leu
85 90 95
Glu Arg Asp Tyr Ser Val Leu Lys Ala Ser Tyr Asp Ala Leu Lys Ser
100 105 110
Asp Phe Glu Arg Leu Gln Gln Glu Asn Lys Asn Ile Arg Ala
115 120 125

<210> 1011
<211> 96
<212> PRT
<213> Pinus radiata

<400> 1011
Met Phe Thr Ile Ser Thr Cys Thr Thr His Ala Gln Ser Leu Ile Tyr
1 5 10 15
Ser Phe Val Ala Arg Gly Thr Val Val Leu Ala Glu Tyr Thr Glu Phe
20 25 30
Lys Gly Asn Phe Thr Gly Ile Ala Ala Gln Cys Leu Gln Lys Leu Pro
35 40 45
Ala Ser Asn Asn Lys Phe Thr Tyr Asn Cys Asp Asn His Thr Phe Asn
50 55 60
Tyr Leu Asp Glu Asp Gly Phe Ala Tyr Cys Val Val Ala Asp Glu Ser
65 70 75 80
Val Gly Arg Gln Val Pro Met Ala Phe Leu Glu Arg Val Lys Glu Asp
85 90 95

<210> 1012
<211> 110
<212> PRT
<213> Pinus radiata

<400> 1012
Gly Cys Pro Gly Asn Ile His Asp Asp Asp Glu Glu Glu Asp Glu Glu
1 5 10 15
Glu Cys Ser Gly Thr Gly Gln Gln Thr Arg Lys Lys Arg Arg Leu Ser
20 25 30
Leu Gln Gln Val Arg Ser Leu Glu Lys Thr Phe Glu Val Glu Asn Lys
35 40 45
Leu Glu Pro Glu Arg Lys Leu Gln Leu Ala Gln Glu Leu Gly Leu Gln
50 55 60
Pro Arg Gln Val Ala Val Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys
65 70 75 80
Thr Lys Gln Leu Glu Arg Asp Tyr Gly Gln Leu Lys Leu Asn Phe Glu
85 90 95
Cys Leu Lys Ser Asn Phe Asp Ala Ile Lys Gln Glu Asn Gln
100 105 110

<210> 1013

<211> 108
<212> PRT
<213> Pinus radiata

<400> 1013

Met Ala Gly Glu Lys Arg Lys Ile Asn Arg Ile Ala Asn Ala Ser Ala
1   5   10   15
Arg Gln Val Thr Phe Ala Lys Arg Arg Arg Gly Leu Phe Lys Lys Ala
            20   25   30
Gln Glu Leu Ser Ile Leu Cys Glu Ala Asp Val Ala Leu Leu Val Phe
        35   40   45
Ser Ser Thr Gly Lys Leu Tyr Gln Tyr Ser Ser Ser Ser Met Lys Met
    50   55   60
Ile Leu Asp Gln Tyr Ile Leu Tyr Ser Arg Ser Ile Gln Lys Asp Gly
65   70   75   80
Lys Pro Asn Leu Glu Glu Ser His Asp Ile Gln Lys Ile Lys Gln Gln
                85   90   95
Ile Lys Asp Ile Ser Gln Asn Leu Arg Lys Leu Arg
            100   105

<210> 1014
<211> 177
<212> PRT
<213> Pinus radiata

<400> 1014

Met Gly Met Asp Met Glu Asp Cys Asn Thr Gly Leu Gly Leu Gly Met
1   5   10   15
Ser Ile Gly Leu Gly Met Asn Leu Met Arg Glu Asp Leu Gln Ser His
            20   25   30
Arg His His Val Asn Gly Pro Pro Val Gln Leu Asp Leu Leu Pro Leu
        35   40   45
Ala Pro Val Leu Pro Ser Arg Asp Leu Pro Trp Gly Lys Thr Ser Pro
    50   55   60
Gly Thr Asp Gly Glu Arg Ser Ala Gly Glu Ser Lys Ala Thr Val Pro
65   70   75   80
Arg Arg Ile Asp Val Asn Lys Leu Pro Ala Ser Cys Tyr Tyr Asn Glu
                85   90   95
Asp Thr Gly Thr Ile Asn Val Ser Ser Pro Asn Ser Ala Leu Ser Ser
            100   105   110
Phe His Val Asp Ser Gly Gly Ala Ile Asn Ala Glu Ser Ser Cys Tyr
        115   120   125
Gly Met Ser Val Lys Arg Glu Arg Glu Ala Thr Glu Glu Leu Glu Ala
    130   135   140
Glu Arg Ala Cys Ser Arg Val Ser Asp Glu Glu Ala Asp Gln Glu Gly
145   150   155   160
Gly Thr Arg Lys Lys Leu Arg Leu Ser Lys Glu Gln Ser Ala Leu Leu
                165   170   175
Glu

<210> 1015
<211> 61
<212> PRT
<213> Pinus radiata

<400> 1015

Met Gly Lys Lys Leu Glu Leu Lys Arg Ile Gln Asn Pro Asn Ser Ser
1   5   10   15
Arg Asp Ser Phe Ser Lys Cys Lys Arg Gly Leu Leu Lys Lys Ser Val
            20   25   30
Lys Leu Phe Val Leu Cys Asp Ala Glu Val Ser Leu Ile Ile Leu Ser
        35   40   45
Glu Thr Ala Lys Ile Tyr Glu Phe Ala Ser Asn Lys Ser
    50   55   60

<210> 1016
<211> 51
<212> PRT
<213> Pinus radiata

<400> 1016
Arg Phe Gln Ala Gln Asp Phe Gln Lys Gln Gly Thr Gln Leu Arg Arg
1   5   10   15
Lys Met Trp Phe Gln Asn Met Lys Val Lys Leu Val Val Leu Gly Ile
            20   25   30
Val Phe Val Leu Ile Leu Ile Ile Trp Leu Ser Ile Cys His Gly Phe
        35   40   45
Lys Cys His
    50

<210> 1017
<211> 68
<212> PRT
<213> Pinus radiata

<400> 1017
Met Gly Gln Gln Ser Leu Ile Tyr Ser Phe Val Ala Arg Gly Thr Val
1   5   10   15
Val Leu Ala Glu Tyr Thr Gln Phe Thr Gly Asn Phe Thr Thr Ile Ala
            20   25   30
Asn Gln Cys Leu Gln Lys Ile Pro Ala Ser Asn Asn Lys Phe Thr Tyr
        35   40   45
Asn Cys Asp Arg His Thr Phe Asn Tyr Leu Val Glu Asp Gly Ser His
    50   55   60
Thr Val Leu Leu
65

<210> 1018
<211> 155
<212> PRT
<213> Pinus radiata

<400> 1018
Met Asp Arg Glu Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
1   5   10   15
Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Thr Ile His Lys Thr Ala
            20   25   30
Thr Ala Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
        35   40   45
Asn Asn Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp His
    50   55   60
Val Ile His Phe Ala Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
65   70   75   80

Thr Trp Val Val Ser Gly Ser Ser Gln Thr Lys Lys Leu Gln Asp Leu
85 90 95
Phe Pro Gly Ile Ile Asn Gln Leu Gly Pro Glu Ser Phe Ala Asn Leu
100 105 110
Arg Lys Ile Ala Asp Gln Phe Arg Arg Pro Glu Pro Asn Pro Ala Gln
115 120 125
Gly Glu Asp Asp Asp Asp Asp Asp Val Pro Glu Leu Val Glu Gly Glu
130 135 140
Thr Phe Glu Glu Ala Ala Lys Lys Asp Ser Ser
145 150 155

<210> 1019
<211> 249
<212> PRT
<213> Pinus radiata

<400> 1019
Met Met Gln Pro Ala Val Gly Val Ala Pro Pro Pro Pro Val Ala Ala
1 5 10 15
Pro Ala Met Asp Pro Gln Gln Gln Gln Gln Gln Trp Met Met Met Gln
20 25 30
Gln Gln Met Gln Pro Gln Gln Ala Gln Pro Gln Pro Pro Pro Gln Ala
35 40 45
Gly Phe Trp Pro Pro Gln His Gln Pro Gln Pro Gln His Ala Gln Ser
50 55 60
Gln Leu Met Ala Gln Gln Tyr Pro Gln Gln Pro Thr Ser Ala Asp Glu
65 70 75 80
Ile Arg Thr Leu Trp Val Gly Asp Leu Gln Tyr Trp Met Asp Glu Thr
85 90 95
Tyr Leu His Gly Cys Phe Gly Asn Ser Gln Glu Val Val Ser Val Lys
100 105 110
Ile Ile Arg Asn Lys Gln Thr Gly Gln Ser Glu Gly Tyr Gly Phe Val
115 120 125
Glu Phe Ala Ser His Ala Gly Ala Glu Arg Ala Leu Gln Thr Tyr Asn
130 135 140
Gly Ala Gln Met Pro Asn Thr Glu Gln Phe Tyr Arg Ile Asn Trp Ala
145 150 155 160
Thr Phe Gly Ile Gly Glu Lys Arg Pro Glu Ile Gly Pro Asp Tyr Pro
165 170 175
Ile Phe Val Gly Asp Leu Ala Ser Asp Val Thr Asp Tyr Leu Leu Gln
180 185 190
Glu Thr Phe Arg Thr Arg Tyr Gln Thr Val Lys Gly Ala Lys Val Val
195 200 205
Thr Asp Arg Val Thr Gly Arg Ser Lys Gly Tyr Gly Phe Val Arg Phe
210 215 220
Gly Asp Glu Asn Glu Gln Val Arg Ala Met Thr Glu Met Asn Gly Val
225 230 235 240
Phe Cys Ser Ser Arg Pro Met Arg Ile
245

<210> 1020
<211> 82
<212> PRT
<213> Pinus radiata

<400> 1020
Ala Ser Phe Gly Leu Gly Glu Arg Arg Leu Leu Thr Gly Pro Glu His

1 5 10 15
Ser Ile Phe Val Gly Asp Leu Ala Pro Asp Val Thr Asp Tyr Leu Leu
20 25 30
Gln Glu Thr Phe Arg Ser Arg Tyr Thr Ser Val Arg Gly Ala Lys Val
35 40 45
Val Thr Asp Pro Ser Thr Gly Arg Ser Lys Gly Tyr Gly Phe Val Lys
50 55 60
Phe Ala Asp Glu Asn Glu Arg Asn Arg Ala Met Thr Glu Met Asn Gly
65 70 75 80
Val Tyr

<210> 1021
<211> 107
<212> PRT
<213> Pinus radiata

<400> 1021
Arg Gln Glu Pro Ser Leu Lys Lys Gln Ile Ile Glu Thr Ser Glu Lys
1 5 10 15
Ala Ile Val Phe Ser Gln Trp Thr Ser Met Leu Asp Leu Leu Glu Val
20 25 30
Pro Leu Lys Lys Ser Cys Ile Gln Tyr Arg Arg Leu Asp Gly Thr Met
35 40 45
Ser Val Ile Ala Arg Asp Lys Ala Val Asn Asp Phe Lys Thr Leu Pro
50 55 60
Glu Val Thr Val Met Ile Met Ser Leu Lys Ala Ala Ser Leu Gly Leu
65 70 75 80
Asn Met Val Ala Ala Ser His Val Leu Leu Leu Asp Leu Trp Val Glu
85 90 95
Ser Gln Gln Leu Lys Thr Lys Leu Leu Thr Gly
100 105

<210> 1022
<211> 99
<212> PRT
<213> Pinus radiata

<400> 1022
Leu Gly Phe Glu Asp Tyr Val Glu Pro Leu Lys Ile Tyr Leu Asn Lys
1 5 10 15
Tyr Arg Glu Leu Glu Gly Glu Lys Ser Ser Met Ala Ala Pro Pro Arg
20 25 30
Gln Ser Asp Leu Gln Gln His His His Val Asn Gly Ser Asp Pro His
35 40 45
Pro Tyr Gly His Ser Pro His Gly Pro Met Ala Tyr His Val Pro Gly
50 55 60
Gly Ala Ser Phe Arg Ala Trp Lys Val Thr Val Ala Cys Ser Phe Cys
65 70 75 80
Tyr Cys Lys Glu Val Ile Glu Met Glu Met Gly His Gly Asn Gly Asp
85 90 95
Cys Lys Val

<210> 1023
<211> 158
<212> PRT

<213> Pinus radiata

<400> 1023

Met Glu Asn Leu Pro Asn Gln Gln Pro Asp Leu Glu Ile Ala Gln Thr
1 5 10 15
His Glu Asp Pro Gly Ser Arg Gln Phe Lys Gly Ile Arg Leu Arg Lys
20 25 30
Trp Gly Arg Trp Val Ser Glu Ile Arg Ile Pro Lys Ser Arg Glu Lys
35 40 45
Ile Trp Leu Gly Ser Tyr Thr Thr Pro Glu Gln Ala Ala Arg Ala Tyr
50 55 60
Asp Ala Ala Val Tyr Cys Leu Lys Gly Pro Asn Ala Lys Phe Asn Phe
65 70 75 80
Pro Glu Thr Val His Asp Ile Pro Ser Val Thr Ser Val Ser Arg Gln
85 90 95
Glu Ile Gln His Ala Ala Leu Lys Tyr Ala Leu Gly Gln Pro Pro Pro
100 105 110
Ser Leu Gln Ser Leu Glu Gly His Ala Ala Leu Lys Tyr Ala Leu Gly
115 120 125
Gln Pro Pro Pro Ser Leu Gln Ser Leu Glu Gly His Ala Ala Leu Lys
130 135 140
Tyr Ala Leu Gly Gln Pro Pro Pro Ser Leu Gln Ser Leu Gln
145 150 155

<210> 1024
<211> 197
<212> PRT
<213> Pinus radiata

<400> 1024

Met Ala Phe Thr Gly Thr Gln Gln Lys Cys Lys Ala Cys Asp Lys Thr
1 5 10 15
Val Tyr Phe Val Asp Gln Leu Ser Ala Asp Gly Val Ser Tyr His Lys
20 25 30
Ala Cys Phe Arg Cys Asn His Cys Lys Gly Thr Leu Lys Leu Ser Asn
35 40 45
Tyr Ser Ser Met Glu Gly Val Leu Tyr Cys Lys Pro His Phe Asp Gln
50 55 60
Leu Phe Arg Glu Ser Gly Asn Phe Asn Lys Asn Phe Gln Ser Gln Arg
65 70 75 80
Ser Ser Lys Ala Ile Asp Gly Leu Ser Pro Glu Met Thr Arg Ser Pro
85 90 95
Ser Lys Val Ser Met Met Phe Ser Gly Thr Gln Asp Lys Cys Ala Thr
100 105 110
Cys Gly Lys Thr Ala Tyr Pro Leu Glu Lys Val Thr Val Glu Asn Leu
115 120 125
Ser Tyr His Lys Ser Cys Phe Arg Cys Ser His Gly Gly Cys Ser Ile
130 135 140
Ser Pro Ser Asn Tyr Ala Ala Leu Glu Gly Ile Leu Tyr Cys Lys His
145 150 155 160
His Phe Ser Gln Leu Phe Lys Glu Lys Gly Ser Tyr Asn His Leu Ile
165 170 175
Lys Thr Ala Ser Met Lys Arg Ala Ala Ala Val Pro Glu Val Ala Ser
180 185 190
Ala Val Pro Glu Ile
195

<210> 1025
<211> 232
<212> PRT
<213> Pinus radiata

<400> 1025
Lys Pro Ala Gly Thr Ser Arg Leu Pro Glu Phe Lys Ser Arg Thr Ile
1 5 10 15
Thr Leu Pro Ser Phe Asn Ile Pro Ser Ser Asn Pro Arg Lys Leu Leu
20 25 30
Asp Met Val Lys Pro Ser Gln Lys Gln Asn Ile His Val Asn Gly Lys
35 40 45
Pro Glu Ser Arg Ser Leu Met Ser Arg Gln Phe Lys Gly Ile Arg Leu
50 55 60
Arg Lys Trp Gly Lys Trp Val Ser Glu Ile Arg Met Pro Asn Cys Arg
65 70 75 80
Ala Lys Ile Trp Leu Gly Ser Tyr Glu Ser Pro Glu Lys Ala Ala Arg
85 90 95
Ala Tyr Asp Phe Ala Ala Tyr Cys Leu Arg Gly Ser Lys Ala Arg Phe
100 105 110
Asn Phe Pro Asp Ser Pro Pro Glu Ile Pro Cys Ala Ser Ser Leu Ser
115 120 125
Pro Ser Gln Ile Gln Ala Gly Ala Ala Arg Phe Ala Ala Glu Glu Phe
130 135 140
Gln Met Pro Ser Asp Asp Asp Thr Ala Ser Ser Ser Cys Gly Ser Glu
145 150 155 160
Ala Glu Ser Asp Leu Pro Pro Glu Ile Pro Cys Ala Ser Ser Val Ser
165 170 175
Pro Pro Pro Ile Gln Ala Ala Ala Pro Arg Phe Ala Ala Glu Glu Phe
180 185 190
Arg Leu Pro Ser Asp Glu Asp Thr Ala Ser Ser Ser Cys Gly Ser Val
195 200 205
Thr Glu Ser Asn Ile Asp Ser Gln Gln Ile Ser Ala Glu Gln Gly Ser
210 215 220
Ala Phe Trp Asp Ser Leu Phe Leu
225 230

<210> 1026
<211> 88
<212> PRT
<213> Pinus radiata

<400> 1026
His Gln Trp His Arg Phe Cys Ser Arg Arg Leu Cys Cys Thr Ala Leu
1 5 10 15
His Asn Thr Gln Lys Gln Cys Thr Lys Ser Ala Ala Thr Gly Lys Gly
20 25 30
Gly Ile Lys Arg Ile Arg Arg Gln Gln Glu Ala Ala Pro Ser Pro Pro
35 40 45
Glu Glu Ala Thr Leu Asn Gln Gln Thr Pro Pro Tyr Arg Gly Val Arg
50 55 60
Arg Arg Asn Trp Gly Lys Trp Val Ser Glu Ile Arg Glu Pro Lys Lys
65 70 75 80
Lys Thr Arg Ile Trp Leu Gly Ser
85

<210> 1027

<211> 501
<212> PRT
<213> Pinus radiata

<400> 1027

```
Met Cys Gly Gly Ala Ile Ile Ser Asp Phe Ile Ile Pro Pro Ala Ser
 1               5                  10                  15
Arg Gly Arg Arg Val Thr Ala Arg Asp Ile Trp Pro Asp Phe Asp Lys
            20                  25                  30
Phe Ser Glu Phe Ile Asn Gly Gly Ala Ala Val Glu Ser Phe Asp Val
        35                  40                  45
Ser Val Asp Val Asp Asp Asp Glu Glu Asp Ser Asp Asp Asp Glu Phe
    50                  55                  60
Leu Asp Phe Glu Glu Ser Tyr Gln Asn Lys Lys Lys Lys Gln Gln Gln
65                  70                  75                  80
Pro Ile Ser Pro Thr Lys Gly Phe Glu Leu Pro Leu Ala Arg Gly Leu
                85                  90                  95
Asp Gly Pro Ala Ala Lys Ser Ala Val Arg Lys Arg Lys Asn Leu Tyr
            100                 105                 110
Arg Gly Ile Arg Gln Arg Pro Trp Gly Lys Trp Ala Ala Glu Ile Arg
        115                 120                 125
Asp Pro Arg Lys Gly Ala Arg Val Trp Leu Gly Thr Phe Asn Thr Ala
    130                 135                 140
Glu Glu Ala Ala Arg Ala Tyr Asp Ala Ala Ala Arg Lys Ile Arg Gly
145                 150                 155                 160
Lys Lys Ala Lys Val Asn Phe Val Asp Glu Pro Pro Pro Ser Val Lys
                165                 170                 175
Lys Glu Ser Asn Asn Ala Lys Gly Ser Lys Lys Gly Ser Ser Lys Lys
            180                 185                 190
Ile Lys Ser Tyr Thr Thr Pro Lys Ala Asp Phe Phe Glu Gly Phe Lys
        195                 200                 205
Thr Ala Asn Pro Ser Ile Ala Gln Tyr Asn Phe His Gln Lys Phe Pro
    210                 215                 220
Asn Pro Ser Cys Asp Asp Leu Gly Tyr Gln Asn Pro Leu Ser Pro Leu
225                 230                 235                 240
His Ala Ile Cys Asn Arg Asn Phe Ala Ala Lys Gln Ser Ser Ser Ala
                245                 250                 255
Leu Pro Ala Tyr Ser Thr Glu Phe Ser Asp Phe Asp Asp Ser Glu Val
            260                 265                 270
Asp Asn Leu Val Pro Gln Pro Ala Ser Phe Glu Pro Met Lys Asn Ile
        275                 280                 285
Asn Lys Arg Lys Gly Tyr Asn Ser Phe Glu Ser Asp Thr Ser Ser Val
    290                 295                 300
Ser Ala Asp Arg Ser His Ile Ser Trp Val Thr Glu Val Lys Thr Pro
305                 310                 315                 320
Glu Ile Ser Ser Val Pro Lys Ala Glu Ala Asp Ser Asp His Tyr Asp
                325                 330                 335
Phe Ala Asp Met Ser Thr Pro Val Ala Thr Ser Val Ser Ala Gly Ser
            340                 345                 350
Pro Glu Val Gln Leu Pro Pro Phe Asn Asn Gly Leu Asn Lys Ser Pro
        355                 360                 365
Ser Val Glu Asp Gly Val Ala Ala Glu Lys Ser Pro Lys Leu Glu Glu
    370                 375                 380
Ser Ser Gln Leu Glu Ile Ser Glu Asp Leu Pro Ser Leu Glu Ser Tyr
385                 390                 395                 400
Pro Trp Leu Phe Gln Met Pro Tyr Phe Glu Gly Leu Asp Gln Ser Leu
                405                 410                 415
```

Gln Gly Val Gly Ile Gly Asp Ala Ser Phe Pro Asp Gly Glu Asn Asp
420 425 430
Leu Gln Leu Trp Ser Phe Asp Ala Val Pro Ile Ser Asp Ser Ala Tyr
435 440 445
Ile Ser Leu Glu Ser Leu Ala Cys Lys Gln Leu Val Ile Met Glu Ser
450 455 460
Arg Arg Leu Val Met Ala Ser Phe Cys Arg Pro Ser Ser Asn Arg Glu
465 470 475 480
Leu Val Ile Phe Pro Leu Phe Phe Phe Ile Gln Phe Asp Gly Ala Thr
485 490 495
Val Ile Ser Ala His
500

<210> 1028
<211> 134
<212> PRT
<213> Pinus radiata

<400> 1028
Met Ala Phe Ala Gly Thr Gln Gln Lys Cys Lys Ala Cys Glu Lys Thr
1 5 10 15
Val Tyr Val Val Asp Gln Leu Thr Ala Asp Gly Ser Val Phe His Lys
20 25 30
Ala Cys Phe Arg Cys His His Cys Asn Gly Thr Leu Lys Leu Ser Asn
35 40 45
Tyr Ser Ser Phe Glu Gly Val Leu Tyr Cys Lys Pro His Phe Asp Gln
50 55 60
Leu Phe Lys Arg Thr Gly Ser Leu Asp Lys Ser Phe Glu Gly Thr Pro
65 70 75 80
Lys Ala Val Lys Asn Glu Lys Leu Asn Asp Gly Glu Ile Lys Thr Pro
85 90 95
Asn Arg Val Ser Ala Leu Phe Ser Gly Thr Gln Glu Lys Cys Leu Ala
100 105 110
Cys Gly Asn Thr Val Tyr Pro Ile Glu Lys Val Ser Val Glu Gly Val
115 120 125
Gly Tyr His Lys Ala Cys
130

<210> 1029
<211> 76
<212> PRT
<213> Pinus radiata

<400> 1029
Met Asp Gly Ser Gln Asn Ser Gly Gly Asn Ala Val Pro Pro Phe Leu
1 5 10 15
Thr Lys Thr Tyr Asp Met Val Asp Asp Ser Ser Thr Asp Ser Ile Val
20 25 30
Ser Trp Ser Pro Gly Asn Asn Ser Phe Ile Val Trp Asn Pro Pro Glu
35 40 45
Phe Ala Arg Asp Leu Leu Pro Lys Tyr Phe Lys His Asn Asn Phe Ser
50 55 60
Ser Phe Val Arg Gln Leu Asn Thr Tyr Gly Phe Arg
65 70 75

<210> 1030
<211> 97

<212> PRT
<213> Pinus radiata

<400> 1030
His Glu Lys Lys Ala Val Leu Trp Asn Met Asp Thr Leu Lys Ala Lys
1 5 10 15
Gly Ser Leu Glu Glu His Ser Phe Leu Ile Thr Asp Val Arg Phe Ser
20 25 30
Pro Asn Ser Thr Arg Leu Ala Thr Ser Ser Phe Asp Arg Thr Val Lys
35 40 45
Val Trp Asp Ala Asp Asn Pro Asn Tyr Thr Leu Arg Thr Phe Ser Gly
50 55 60
His Thr Gly Ser Val Met Ser Leu Asp Phe His Pro Asn Asn Glu Asp
65 70 75 80
Leu Ile Cys Ser Cys Asp Gly Glu Ser Glu Val Arg Tyr Trp Ser Val
85 90 95
Asn

<210> 1031
<211> 117
<212> PRT
<213> Pinus radiata

<400> 1031
Met Gly Tyr Leu Gln Glu Leu Glu Asp Gln Ile Ile Gly Leu Gln Asn
1 5 10 15
Leu Val Lys Arg Asn Glu Arg Leu Tyr Gly Ser Gly Asn Thr Pro Ser
20 25 30
Gly Gly Val Ala Leu Pro Phe Ile Leu Val Gln Thr Arg Pro Gln Ala
35 40 45
Thr Val Glu Ile Glu Ile Ser Glu Asp Met Gln Leu Val His Phe Asp
50 55 60
Phe Asn Ser Thr Pro Phe Glu Leu His Asp Asp Ala Tyr Val Leu Lys
65 70 75 80
Ala Met Gly Phe Cys Glu Lys Pro Phe Thr Asp Gly Met Asp Val Thr
85 90 95
Gly His Asp Ser Phe Ala Asn Gly Thr Gly Phe Gly Glu Asn Asn Met
100 105 110
Thr Ile Thr Asn Met
115

<210> 1032
<211> 146
<212> PRT
<213> Pinus radiata

<400> 1032
Thr Arg Val Leu Leu Ile Asp Asp His Pro Leu Phe Arg Glu Gly Leu
1 5 10 15
Ala Gly Ala Ile Gln Ala Glu Pro Asp Phe Glu Val Val Gly Gln Ala
20 25 30
Gly Thr Val Asp Glu Leu Arg Gly Leu Ala Pro Gln Ile Glu Pro Asp
35 40 45
Val Ala Ile Val Asp Leu Leu Met Pro Ser Val Ser Gly Ile Gly Val
50 55 60
Thr Arg Glu Leu Cys Glu Leu Leu Pro Arg Cys Arg Val Leu Gly Leu

65   70   75   80
Ser Ala Val Val Asp Ala Ala Ala Ile Ala Glu Met Leu Arg Ala Gly
                85   90   95
Ala Ser Gly Phe Ala Leu Lys Thr Gln Pro Ala Pro Asp Ile Leu Asp
            100   105   110
Ala Val Arg Arg Thr Val Ala Gly Glu Ser Tyr Leu Pro Pro Ser Val
        115   120   125
Ser Arg Glu Ala Ile Asp Ala Glu Leu Ala Gly Gly Ala Pro Pro Ser
    130   135   140
Leu Ala
145

<210> 1033
<211> 181
<212> PRT
<213> Pinus radiata

<400> 1033
Met Ser Ile Leu Pro Lys Ser Asp Ser Ile His Ile Arg Glu Val Trp
1   5   10   15
Ala Asp Asn Leu Glu Glu Glu Phe Asn Leu Ile Arg Glu Ile Val Asp
            20   25   30
Asp Tyr Pro Leu Ile Ala Met Asp Thr Glu Phe Pro Gly Ile Val Val
        35   40   45
Arg Pro Val Gly Lys Phe Arg Thr Val Gln Glu Tyr Asn Tyr Glu Thr
    50   55   60
Leu Arg Ser Asn Val Asp Val Leu Lys Leu Ile Gln Leu Gly Leu Thr
65   70   75   80
Phe Ser Asp Glu Asp Gly Asn Leu Pro Asn Cys Gly Thr Asp Arg Tyr
                85   90   95
Cys Val Trp Gln Phe Asn Phe Arg Glu Phe Asn Ile Trp Glu Asp Ala
            100   105   110
Tyr Ala Ser Asp Ser Ile Glu Leu Leu Arg Gln Ser Gly Ile Asp Phe
        115   120   125
Lys Lys Asn Ser Glu Arg Gly Val Asp Ser His Leu Phe Ala Glu Leu
    130   135   140
Leu Met Ser Ser Gly Ile Val Leu Asn Glu Asn Val Arg Trp Ile Thr
145   150   155   160
Phe His Ser Gly Tyr Asp Phe Gly Tyr Leu Leu Lys Leu Val Met Asn
                165   170   175
Arg Ser Leu Pro Pro
            180

<210> 1034
<211> 122
<212> PRT
<213> Pinus radiata

<400> 1034
Glu His Ala Cys Pro Met Ala Cys His Pro Gly Pro Cys Pro Pro Cys
1   5   10   15
Leu Val Ser Val Ser Lys Ser Cys Trp Cys Gly Ser Lys Thr Leu Val
            20   25   30
Ser Arg Cys Ser Val Leu Asn Lys Gly Thr Ser Thr Asn Ala Gly Val
        35   40   45
Gly Pro Val Leu Ser Cys Gly Gln Pro Cys Gly Arg Leu Leu Gly Cys
    50   55   60

Glu Lys His Thr Cys Glu Gln Glu Cys His Pro Gly Pro Cys Pro Pro
65   70   75   80
Cys Asp Ile Val Asp Val Ala Lys Cys Tyr Cys Gly Arg Gln Glu Arg
                85   90   95
Gly Met Ala Cys Gly Thr Gly Ile Val Glu Thr Cys Val Val Glu Gly
            100   105   110
Glu Gly Ser Trp Glu Gly Arg Trp Gln Cys
        115   120

<210> 1035
<211> 158
<212> PRT
<213> Pinus radiata

<400> 1035
Met Arg Ile Asn Glu Ala Thr Pro Lys Lys Ser Leu Gly Phe Gln Gln
1   5   10   15
Pro Tyr Ser Met Lys Gly Asn Tyr Tyr Thr Gln Ala Tyr Gly Gly Ala
            20   25   30
Val Ala Ser Gln Ala Phe Gln Ser Asp Asn Asp Pro Asn Asn Thr Thr
        35   40   45
Ile Phe Val Gly Gly Leu Asp Pro Asn Ala Thr Asp Glu Asp Leu Arg
    50   55   60
Gln Val Phe Gly Pro Tyr Gly Glu Ile Val Tyr Val Lys Ile Pro Val
65   70   75   80
Gly Lys Gly Cys Gly Phe Val Gln Phe Thr Asn Arg Ser Ser Ala Glu
                85   90   95
Glu Ala Leu Gln Lys Leu His Gly Thr Val Ile Gly Gln Gln Ser Ile
            100   105   110
Arg Leu Ser Trp Gly Arg Ser Pro Ala Asn Lys Gln Thr Ala Ser Trp
        115   120   125
Gly Val Gln Pro Gln Ala Asp Pro Asn Gln Trp Asn Gly Gly Gly Ala
    130   135   140
Tyr Tyr Gly Tyr Gly Gln Gly Tyr Glu Ala Tyr Gly Tyr Ala
145   150   155

<210> 1036
<211> 126
<212> PRT
<213> Pinus radiata

<400> 1036
Gln Tyr Leu Ser Pro Gly Lys Ser Ala Pro Phe Trp Leu Cys Gln Asp
1   5   10   15
Met Ala Ile Thr Ser Gln Gln His His Met Asn Ala Leu Pro Tyr Asn
            20   25   30
Glu Arg Ser Glu Lys Arg Pro Lys Phe Lys Gly Ile Arg Met Arg Lys
        35   40   45
Trp Gly Ser Trp Gly Ser Glu Ile Arg Met Pro Lys Thr Arg Thr Lys
    50   55   60
Ile Trp Leu Gly Ser Tyr Glu Thr Ala Glu Gln Ala Ala Arg Ala Tyr
65   70   75   80
Asp Ala Ala Leu Tyr Cys Leu Arg Gly Pro Asn Ala Lys Phe Asn Phe
                85   90   95
Pro Asp Thr Val Pro Ser Ile Pro Ser Ala Phe Ser Leu Ser Arg His
            100   105   110
Gln Ile Gln Leu Ala Ala Ala Arg Tyr Ala Arg Asp Glu Leu

115 120 125

<210> 1037
<211> 79
<212> PRT
<213> Pinus radiata

<400> 1037
Met Glu Pro Met Asp Ile Val Gly Lys Ser Lys Asp Asp Val Ser Leu
1 5 10 15
Pro Lys Ala Thr Met Phe Lys Ile Ile Lys Glu Met Leu Pro Pro Asp
20 25 30
Val Arg Val Ala Arg Asp Ala Gln Asp Leu Leu Val Glu Cys Cys Val
35 40 45
Glu Phe Ile Asn Leu Ile Ser Ser Glu Ser Asn Glu Val Cys Gly Arg
50 55 60
Glu Glu Lys Arg Thr Ile Ala Pro Glu His Val Leu Arg Ala Leu
65 70 75

<210> 1038
<211> 132
<212> PRT
<213> Pinus radiata

<400> 1038
Glu Ile Ser Leu Phe Trp Leu Gln Ser Phe Cys Lys Leu Pro Asn Met
1 5 10 15
Glu Asn Val Pro Glu Gln Glu Pro Asp Asn Thr Ile Ser Leu Pro His
20 25 30
Glu Asp Arg Gly Ser Arg Gln Phe Lys Gly Ile Arg Leu Arg Lys Trp
35 40 45
Gly Ser Trp Val Ser Glu Ile Arg Met Pro Arg Ser Arg Lys Lys Ile
50 55 60
Trp Leu Gly Ser Tyr Thr Thr Pro Glu Gln Ala Ala Arg Ala Tyr Asp
65 70 75 80
Ala Ala Val Tyr Cys Leu Arg Gly Arg Asn Ala Glu Phe Asn Phe Ser
85 90 95
Val Pro Asp Ile Pro Thr Ala Ser Pro Leu Ser Arg Glu Gln Ile Gln
100 105 110
His Ala Ala Ala Glu Tyr Ala Leu Gly Lys Ala Pro Ser Ser Phe Pro
115 120 125
Ser Phe Ala Gly
130

<210> 1039
<211> 241
<212> PRT
<213> Pinus radiata

<400> 1039
Met Asn Glu Pro Asp Glu His Ala Ala Ala Gln Leu Val Gln Lys Arg
1 5 10 15
Ser His Pro Leu Ala Glu Val Val Met Pro Ile Ser Val Arg Pro Leu
20 25 30
Ala Glu Lys Cys Gly Val Glu Ala Glu Glu Glu Arg Lys Arg Ala Ala
35 40 45
Glu His Lys Lys Gln Arg Ser Lys Asn Trp Thr Arg Ala Glu Thr Leu

50 55 60
Lys Leu Ile Arg Leu Arg Ala Glu Met Glu Pro Arg Phe Ala Arg Ser
65 70 75 80
Gly Arg Lys Ser Glu Leu Trp Glu Glu Ile Ala Glu Ala Leu Arg Arg
85 90 95
Glu Ser Val Val Arg Asp Ala Gln Arg Cys Arg Asp Lys Trp Glu Lys
100 105 110
Leu Thr Ala Ser Tyr Lys Glu Val Arg Asp Gly Gln Arg Asp Arg Gln
115 120 125
Asp Phe Pro Phe Phe Asp Glu Leu Asp Pro Leu Leu Ser Leu Lys Pro
130 135 140
Gln Lys Ala Ala Ala Ala Ala Ala Ala Ala Ala Thr Ala Ala Thr Ala
145 150 155 160
Ala Asn Phe Val Ser Ala Glu Thr Pro Ser Asn Phe Pro Thr Asp Asp
165 170 175
Glu Met Thr Glu Glu Gly Ser Pro Ala Gly Lys Arg Arg Lys Thr Thr
180 185 190
Pro Arg Gly Leu Ser Ala Thr Asp Leu Asp Ala Val Arg Glu Leu Leu
195 200 205
Glu Ser Leu Val Ser Arg Gln Gln Arg Phe Phe Val Asp Leu Leu Asp
210 215 220
Ser Met Glu Arg Lys Glu Glu Ile Arg Glu Arg Ile Arg Gln Glu Lys
225 230 235 240
Glu

<210> 1040
<211> 182
<212> PRT
<213> Pinus radiata

<400> 1040
Met Val Tyr Ile Val Leu Leu Asp Leu Cys Glu Ser Val Gln Pro Pro
1 5 10 15
Gln Gly Ser Leu Gln Glu Phe Ser Asn Ser Ile Gln Glu Glu Gln Ala
20 25 30
Met Val Asp Leu Met Pro Lys Asp Ser Arg Gln Thr Met Ile Asn Asn
35 40 45
Thr Thr Ile Phe Val Gly Arg Leu Asp Pro Asn Ala Thr Asp Glu Asp
50 55 60
Leu Arg Gln Val Phe Gly Gln Tyr Gly Asp Leu Val Ser Ile Lys Ile
65 70 75 80
Pro Val Gly Lys Gly Cys Gly Phe Val Gln Phe Ala Asn Arg Ala Cys
85 90 95
Ala Glu Glu Ala Leu Gln Arg Leu His Gly Thr Val Ile Arg Gln Gln
100 105 110
Thr Ile Arg Leu Ser Trp Gly Arg Ser Pro Ala Asn Lys Gln Asn Ser
115 120 125
Gln Pro Gln Gly Gln Gln Pro Gln Ser Asp Pro Asn Gln Trp Asn Gly
130 135 140
Ala Tyr Tyr Gly Gln Gly Tyr Glu Ser Tyr Gly Tyr Ala Pro Pro Pro
145 150 155 160
Gln Asp Pro Ala Met Tyr Ala Tyr Gly Gly Tyr Pro Gly Tyr Gly Asn
165 170 175
Tyr Asn Gln Gln Val Ser
180

<210> 1041
<211> 66
<212> PRT
<213> Pinus radiata

<400> 1041

```
Thr Ser Tyr His Arg Pro Cys Phe Lys Cys Cys His Gly Gly Cys Val
 1               5                  10                  15
Ile Ser Pro Ser Asn Tyr Val Ala His Glu Gly Arg Leu Tyr Cys Arg
            20                  25                  30
His His Ser Ser Gln Leu Phe Arg Glu Lys Gly Asn Phe Ser Gln Leu
        35                  40                  45
Ser Lys Ala Thr Pro Thr Lys Gly Val Thr Glu Asn Ser Asp Thr Asp
    50                  55                  60
Asp Lys
65
```

<210> 1042
<211> 152
<212> PRT
<213> Pinus radiata

<400> 1042

```
Val Gly Gly Gly Gly Gly Gly Lys Gly Ser Pro Tyr Arg Gly Val Arg
 1               5                  10                  15
Met Arg Lys Trp Gly Lys Trp Val Ser Glu Val Arg Glu Pro Asn Lys
            20                  25                  30
Arg Ser Arg Ile Trp Leu Gly Ser Tyr Ser Thr Pro Glu Ala Ala Ala
        35                  40                  45
Arg Ala Tyr Asp Thr Ala Val Phe Tyr Leu Arg Gly Pro Ser Ala Thr
    50                  55                  60
Leu Asn Phe Pro Glu Glu Ala Arg Lys Glu Gln Gln Ser Asp Leu Arg
65                  70                  75                  80
Leu Ser Gln Leu Gly Glu Leu Ser Pro Ser Ser Ile Gln Arg Arg Ala
                85                  90                  95
Ala Glu Val Gly Ala Ala Val Asp His Ala Met Gln Ala Gly Pro Val
            100                 105                 110
Pro Ala Gln Thr Leu Arg Glu Ile Asn Gln Glu Asn Asp Met Lys Asn
        115                 120                 125
Ala Leu Ser Ser Lys Leu Ser Glu Gly Asn Asn Phe Lys Ile Glu Ala
    130                 135                 140
Lys Asn Asn Met Arg Gln Gln Gly
145                 150
```

<210> 1043
<211> 193
<212> PRT
<213> Pinus radiata

<400> 1043

```
Met Ala Phe Ala Gly Thr Thr Gln Lys Cys Lys Ala Cys Glu Lys Thr
 1               5                  10                  15
Val Tyr Leu Val Asp Gln Leu Thr Ala Asp Asn Ser Val Phe His Lys
            20                  25                  30
Ser Cys Phe Arg Cys His His Cys Asn Gly Thr Leu Lys Leu Ser Asn
        35                  40                  45
Tyr Ser Ser Phe Glu Gly Val Leu Tyr Cys Lys Pro His Phe Asp Gln
```

50 55 60
Leu Phe Lys Arg Thr Gly Ser Leu Asp Lys Ser Phe Glu Ala Ile Pro
65 70 75 80
Arg Ala Ser Arg Asn Asp Lys Met His Glu Asn Glu Asn Arg Thr Pro
85 90 95
Ser Arg Val Ser Ala Leu Phe Ser Gly Thr Gln Asp Lys Cys Val Ala
100 105 110
Cys Gly Lys Thr Val Tyr Pro Ile Glu Lys Val Ala Val Asp Gly Thr
115 120 125
Ser Tyr His Arg Pro Cys Phe Lys Cys Cys His Gly Gly Cys Val Ile
130 135 140
Ser Pro Ser Asn Tyr Val Ala His Glu Gly Arg Leu Tyr Cys Arg His
145 150 155 160
His Ser Ser Gln Leu Phe Arg Glu Lys Gly Asn Phe Ser Gln Leu Ser
165 170 175
Lys Ala Thr Pro Thr Lys Gly Val Thr Glu Asn Ser Asp Thr Asp Asp
180 185 190
Lys

<210> 1044
<211> 121
<212> PRT
<213> Pinus radiata

<400> 1044
Met Val Lys Pro Leu Pro Lys Gln Ser Ser Pro Ser Gly Ser Glu Asn
1 5 10 15
Cys Gln Ile Lys Ser Arg Gln Phe Lys Gly Ile Arg Leu Arg Lys Trp
20 25 30
Gly Lys Trp Val Ser Glu Ile Arg Met Pro Asn Ser Arg Ala Lys Ile
35 40 45
Trp Leu Gly Ser Tyr Asp Ser Pro Glu Lys Ala Ala Arg Ala Tyr Asp
50 55 60
Phe Ala Leu Tyr Cys Leu Arg Gly Ser Lys Ala Thr Phe Asn Phe Pro
65 70 75 80
Asp Ser Pro Pro Glu Ile Pro Cys Ala Ser Asp Leu Ser Pro Pro Gln
85 90 95
Ile Gln Ala Ala Ala Ala Arg Phe Ala Thr Glu Asp Phe Arg Leu Pro
100 105 110
Ser Glu Glu Asp Ala Ala Ser Ser Ser
115 120

<210> 1045
<211> 131
<212> PRT
<213> Pinus radiata

<400> 1045
Met Glu Ile Arg Leu Gln Gln Glu Asn Asp Gln Asp Ile Ala Pro Pro
1 5 10 15
His Glu Asp Arg Val Ser Arg Gln Phe Lys Gly Val Arg Pro Arg Lys
20 25 30
Trp Gly Ile Trp Val Ser Glu Ile Arg Met Pro Arg Ser Arg Gln Lys
35 40 45
Ile Trp Leu Gly Ser Tyr Lys Lys Pro Glu Gln Ala Ala Arg Ala Tyr
50 55 60

Asp Ala Ala Val Tyr Cys Leu Arg Gly Ser Asn Ala Lys Phe Asn Phe
65 70 75 80
Pro Asn Ser Val Pro Asp Ile Pro Ser Ala Ser Ser Leu Ser Arg Gln
85 90 95
Gln Ile Gln Leu Ala Ala Ala Lys Tyr Ala Leu Asp Gln Ser Pro Ser
100 105 110
Ser Pro Pro Ser Leu Asn Asn Asn Lys Glu Glu Pro Ala Ser Pro Ser
115 120 125
Gln Ser Ser
130

<210> 1046
<211> 102
<212> PRT
<213> Pinus radiata

<400> 1046
Met Thr Gln Gln Thr Thr Ser Pro Thr Val Ser Pro Ala Ala Leu Ala
1 5 10 15
Leu Pro Thr Ser Ala Ser Ser Thr Ser Ala Lys Ser Ala Ala Val Pro
20 25 30
Val Pro Ala Gln Ala Asn Pro Arg Lys Arg Pro Arg Ser Asp Leu Ser
35 40 45
Ala Glu Glu Lys Arg Glu Ala Arg Ala His Arg Asn Arg Ile Ala Ala
50 55 60
Gln Asn Ser Arg Asp Lys Arg Lys Gln Gln Phe Thr Ser Leu Glu Gln
65 70 75 80
Arg Val Ile Asp Leu Glu Asn Glu Asn Arg Gln Leu Arg Asp Ala Leu
85 90 95
Ala Thr Ser Gln Pro Asn
100

<210> 1047
<211> 66
<212> PRT
<213> Pinus radiata

<400> 1047
Leu Leu Thr Ile Phe Glu Ala Val Tyr Val His Lys Gly Ile Val Asn
1 5 10 15
Ala Ala Lys Val Leu Asn Leu Thr Pro Ser Ala Ile Ser Gln Ser Ile
20 25 30
Gln Lys Leu Arg Val Ile Phe Pro Asp Pro Leu Phe Ile Arg Lys Gly
35 40 45
Gln Gly Val Thr Pro Thr Ala Phe Ala Met His Leu His Glu Tyr Ile
50 55 60
Ser Gln
65

<210> 1048
<211> 106
<212> PRT
<213> Pinus radiata

<400> 1048
Met Lys Gly Pro Gln Gly Ile Ser Asn Ala Gln Asn Thr Cys Thr Lys
1 5 10 15

Phe Arg Met Pro Thr Ser Glu Asn Leu Ile Pro Ile Arg Leu Asp Ile
20 25 30
Glu Ile Asp Gly Leu Arg Leu Lys Asp Ala Phe Thr Trp Asn Val Asn
35 40 45
Asp Pro Asp Ser Glu Ile His Leu Phe Ala Arg Arg Thr Ile Lys Asp
50 55 60
Leu Lys Tyr Pro Gly Ser Phe Ile Thr Pro Val Val Gln Ser Ile Gln
65 70 75 80
Ala Gln Leu Ala Glu Phe Arg Ser Phe Glu Gly Gln Glu Met Asn Thr
85 90 95
Gly Gln Lys Val Leu Pro Leu Lys Leu Pro
100 105

<210> 1049
<211> 134
<212> PRT
<213> Pinus radiata

<400> 1049
Met Glu Gly Ser Gln Asn Gly Ser Ser Asn Ala Pro Pro Pro Phe Leu
1 5 10 15
Thr Lys Thr Tyr Asp Met Val Asp Asp Pro Ala Thr Asn Ala Met Val
20 25 30
Ser Trp Ser Pro Gly Ser Asn Ser Phe Ile Val Trp Asn Pro Thr Glu
35 40 45
Phe Ser Arg Val Leu Leu Pro Thr Tyr Phe Lys His Ser Asn Phe Ser
50 55 60
Ser Phe Val Arg Gln Leu Asn Thr Tyr Gly Phe His Lys Ile Asp Pro
65 70 75 80
Glu Arg Trp Glu Phe Ala Asn Glu Gly Phe Leu Arg Gly His Arg His
85 90 95
Leu Leu Lys Asn Ile His Arg Arg Lys Pro Val His Ser His Ser Gln
100 105 110
Gln Lys Gly Glu Ser Leu Ser Gly Gly Ser Cys Val Glu Ile Lys Gln
115 120 125
Leu Glu Asp Glu Thr Glu
130

<210> 1050
<211> 220
<212> PRT
<213> Pinus radiata

<400> 1050
Met Val Leu Tyr Glu Leu Leu His Val Gln Gln Ile Gln Gln Ile Gln
1 5 10 15
Gln Gln Gln Phe Gln Leu Gln Gln Gln Gln Ile Ala Ala Ala Ala Ser
20 25 30
Ile His His Met Gly Arg Asn Pro Leu Gly Pro Arg Asp Gln Pro Met
35 40 45
Lys Leu His Gly Ser Ser Leu Ser Lys Pro Ala Lys Leu Tyr Arg Gly
50 55 60
Val Arg Gln Arg His Trp Gly Lys Trp Val Ala Glu Ile Arg Leu Pro
65 70 75 80
Arg Asn Arg Thr Arg Leu Trp Leu Gly Thr Phe Asp Thr Ala Glu Glu
85 90 95
Ala Ala Met Ala Tyr Asp Lys Ala Ala Tyr Arg Leu Arg Gly Asp Tyr

100 105 110
Ala Arg Leu Asn Phe Pro His Leu Lys His His Leu Glu Ala Asn Ser
115 120 125
Phe Ala Pro Trp Thr Gly Asn Ser Val Leu Pro Ser Ser Val Asp Ala
130 135 140
Lys Leu Gln Ala Ile Cys Gln Ser Leu Lys Gln Pro Leu Glu Ser Met
145 150 155 160
Ser Lys Thr Glu Glu Ser Glu Glu Ile Ser Cys Ala Tyr Glu Asn Ser
165 170 175
Gly Ser Leu Gly Ser Val Arg Asp Glu Asp Ala Lys Lys Asn Asp Val
180 185 190
Val Ser Val Lys Ser Glu Thr Cys Asp Ser Asp Ser Ser Asp Asp Ser
195 200 205
Thr Ile Thr Ala Leu Asn Ser Ser Gly Asp Gln Asn
210 215 220

<210> 1051
<211> 219
<212> PRT
<213> Pinus radiata

<400> 1051
Arg Ile Glu Ala Pro Gly Arg Arg Thr Asn Pro Ala Ala Val Thr Trp
1 5 10 15
Ala Ala Ala His Phe Ser Val Lys Glu Gln Asp Arg Phe Leu Pro Ile
20 25 30
Ala Asn Val Gly Arg Ile Met Lys Lys Ala Leu Pro Ala Asn Gly Lys
35 40 45
Val Ser Lys Asp Ala Lys Glu Thr Val Gln Glu Cys Val Ser Glu Phe
50 55 60
Ile Ser Phe Ile Thr Gly Glu Ala Ser Asp Lys Cys Gln Arg Glu Lys
65 70 75 80
Arg Lys Thr Ile Asn Gly Asp Asp Leu Leu Trp Ala Met Thr Thr Leu
85 90 95
Gly Phe Glu Asp Tyr Val Glu Pro Leu Lys Ile Tyr Leu His Lys Tyr
100 105 110
Arg Glu Met Glu Gly Glu Lys Val Ser Met Ala Lys Gln Gly Asp Pro
115 120 125
Thr Pro Ser Lys Glu Gly Asn Asn Ala Ile Asn Gly Ser Ser Ile Glu
130 135 140
Asn Pro Asn Ala Asn Ala Tyr Ser Gly Leu Asn Pro Gly Gly Tyr Asn
145 150 155 160
Arg Val Gln Ser Gln Ser Leu Pro His Met Gln Gln Ala Ala Tyr Gly
165 170 175
Gln Pro Pro Gly Gly Met Val Tyr Gly His His Gly His Ile Met Gly
180 185 190
Ala Tyr Asn Met Thr Ala Pro Asn Ser Ser Gly Gly Asn Ser Ser Gly
195 200 205
Gln Gln Gln Gln Gln Ala Pro Arg Gly Gln Trp
210 215

<210> 1052
<211> 100
<212> PRT
<213> Pinus radiata

<400> 1052

Gly Cys Thr Thr Val Val Glu Thr Leu Ala Lys Trp Gln Glu Leu Asn
1   5   10   15
Ser Gln Val Glu Ser Ser Lys Asp Gly Ala Lys Arg Leu Arg Lys Ala
            20   25   30
Pro Ala Lys Gly Ser Lys Lys Gly Cys Met Lys Gly Lys Gly Gly Pro
        35   40   45
Asp Asn Gly Arg Cys Asn Tyr Arg Gly Val Arg Gln Arg Thr Trp Gly
    50   55   60
Lys Trp Val Ala Glu Ile Arg Glu Pro Asn Arg Gly Ser Arg Leu Trp
65   70   75   80
Leu Gly Thr Phe Ser Ser Ala Glu Glu Ala Ala Arg Ala Tyr Asp Gln
                85   90   95
Ala Ala Arg Val
            100

<210> 1053
<211> 117
<212> PRT
<213> Pinus radiata

<400> 1053
Met Glu Ile Val Gly Lys Ala Lys Glu Asp Val Ser Leu Pro Lys Ala
1   5   10   15
Thr Met Thr Lys Ile Ile Lys Glu Met Leu Pro Ala His Val Arg Val
            20   25   30
Thr Arg Asp Ala Gln Asp Leu Leu Val Glu Cys Cys Val Glu Phe Ile
        35   40   45
Asn Leu Ile Ser Ser Glu Ser Asn Asp Ile Cys Tyr Lys Glu Glu Lys
    50   55   60
Arg Thr Ile Ala Pro Glu His Val Leu Glu Ser Leu Lys Ile Leu Gly
65   70   75   80
Phe Gly Ser Tyr Ile Arg Glu Val Lys Ala Ala Tyr Glu Gln His Arg
                85   90   95
Ile Glu Asn Trp Asp Cys Pro Arg Ala Gly Thr Arg Trp Ser Lys Asn
            100   105   110
Arg Leu Glu Met Thr
        115

<210> 1054
<211> 161
<212> PRT
<213> Pinus radiata

<400> 1054
Asn Ile Asn Gly Val Ala Gly Gly Val Ala Lys Glu Lys Lys Val Asn
1   5   10   15
Phe Pro Trp Cys Ala Leu Glu Lys Gln Val Gly Thr Ser Ser Phe Asp
            20   25   30
Pro Asn Leu Ala Ser Ser Lys Gln Ala Met Asp Ser Leu Ile Met Gln
        35   40   45
Gln Leu Pro Thr Phe Leu Gln Tyr Cys Lys Asp Leu Glu Glu Gly Arg
    50   55   60
Gln Ser Trp Phe Met His Lys Lys Glu Ala Thr Trp Arg Leu Ser Arg
65   70   75   80
Leu Glu Gln Gln Leu Glu Ser Glu Lys Ala Arg Lys Arg Arg Glu Lys
                85   90   95
Ile Glu Glu Val Gly Ser Lys Ile Arg Ala Leu Arg Glu Glu Glu Ile

100 105 110
Thr Tyr Leu Asp Lys Leu Glu Thr Glu Cys Arg Glu Gln Leu Ser Ser
115 120 125
Leu Gln Arg Asp Ala Glu Met Lys Glu Ala Lys Met Met Glu Leu Trp
130 135 140
Ala Thr Lys His Leu Gln Leu Thr Lys Phe Val Asp Ser Ala Leu Ser
145 150 155 160
Val

<210> 1055
<211> 396
<212> PRT
<213> Pinus radiata

<400> 1055
Met Ala Arg Glu Thr Asn Ser Phe Ala Leu Leu Gly Gly Asp Asp Asp
1 5 10 15
Gln Gly Asp Asp Asp Leu Met Ala Leu Ile Asn Ser Ala Ala Thr Leu
20 25 30
Lys Pro Glu Lys Lys Pro Lys Thr Thr Ala Lys Lys Asn Gly Gln Gln
35 40 45
Gln Pro Pro Pro Pro Gln Ser Gln Pro Ala Lys Leu Pro Ser Lys Pro
50 55 60
Leu Pro Pro Ala Glu Ala Val Arg Ala Asp Arg Gly Arg Gly Arg Gly
65 70 75 80
Gly Arg Gly Arg Gly Gly Gly Arg Gly Ser Arg Phe Glu Gly Gly Glu
85 90 95
Tyr Asn Thr Glu Ser Asn Gly Tyr Gly Gly Gly Gly Gly Phe Gly Gly
100 105 110
Gly Arg Gly Trp Gly Arg Asp Glu Asp Ser Gly Asn Arg Gly Trp Gly
115 120 125
Arg Glu Glu Asp Thr Gly Gly Arg Gly Trp Gly Arg Ser Asn Gly Glu
130 135 140
Glu Asp Thr Gly Gly Arg Gly Trp Ser Arg Ser Asn Gly Glu Asp Asp
145 150 155 160
Ala Ala Ala Gly Gly Gly Gln Ser Arg Gly Arg Gly Arg Gly Arg Gly
165 170 175
Arg Gly Arg Gly Phe Gly Gly Arg Gly Ser Gly Arg Phe Gly Gly Gly
180 185 190
Gly Asp Ser Tyr Gly Tyr Asp Ala Asn Gly Gln Asp Arg Pro Pro Arg
195 200 205
Gln Gln Phe Glu Asp Thr Asn Thr Phe Thr Gly Thr Asp Asn Trp Asp
210 215 220
Thr Pro Glu Val Ser Val Val Asp Glu Ala Lys Asn Val Glu Pro Glu
225 230 235 240
Gln Lys Lys Pro Glu Glu Glu Ala Thr Pro Gly Val Thr Ser Glu Asn
245 250 255
Lys Asp Asn Lys Glu Glu Glu Asp Asn Glu Met Thr Leu Asp Glu Tyr
260 265 270
Glu Lys Leu Leu Asn Glu Lys Arg Lys Thr Leu Glu Ala Leu Lys Asn
275 280 285
Ala Glu Arg Lys Val Ile Leu Asp Arg Asp Phe Glu Lys Met Gln Leu
290 295 300
Val Asp Lys Lys Asn Asp Gly Ile Phe Ile Lys Leu Asn Ser Glu Lys
305 310 315 320
Glu Arg Gln Arg Lys Lys Glu Thr Leu Glu Lys Glu Glu Arg Ala Arg

325 330 335
Lys Ser Val Ser Ile Asn Glu Phe Leu Lys Pro Ala Asp Gly Glu Arg
340 345 350
Tyr Phe Thr Pro Ser Gly Thr Arg Gly Arg Gly Arg Gly Arg Gly Arg
355 360 365
Gly Arg Gly Asp Gly Val Ser Thr Arg Gly Gly Phe Gly Gly Arg Tyr
370 375 380
Ser Asp Ala Asp Gln Val Ala Ala Pro Cys Ile Glu
385 390 395

<210> 1056
<211> 120
<212> PRT
<213> Pinus radiata

<400> 1056
Thr Trp Ala Gln Glu Glu Glu Lys Ser Pro Arg Ala Ile Gly Gly Glu
1 5 10 15
Lys Gly Gly Arg Gly Leu Arg Gln Phe Ser Met Lys Val Cys Gln Lys
20 25 30
Val Glu Ser Lys Gly Arg Thr Thr Tyr Asn Glu Val Ala Asp Glu Leu
35 40 45
Val Ala Glu Tyr Ala Asn Pro Asn Ser Ala Leu Ile Ser Pro Asp Gln
50 55 60
Gln Gln Tyr Asp Glu Lys Asn Ile Arg Arg Arg Val Tyr Asp Ala Leu
65 70 75 80
Asn Val Leu Met Ala Met Asp Ile Ile Ser Lys Asp Lys Lys Glu Ile
85 90 95
Gln Trp Lys Gly Leu Pro Ser Thr Ser Pro Asn Asp Leu Glu Asp Leu
100 105 110
Lys Ala Lys Arg Met Gly Leu Arg
115 120

<210> 1057
<211> 78
<212> PRT
<213> Pinus radiata

<400> 1057
Pro Met Lys Leu Tyr Arg Gly Val Arg Gln Arg His Trp Gly Lys Trp
1 5 10 15
Val Ala Glu Ile Arg Leu Pro Arg Asn Arg Thr Arg Leu Trp Leu Gly
20 25 30
Thr Phe Asp Thr Ala Glu Asp Ala Ala Leu Ala Tyr Asp His Glu Ala
35 40 45
Tyr Lys Leu Arg Gly Glu Asn Ala Arg Leu Asn Phe Pro His Leu Phe
50 55 60
Leu Asn Lys Gly Ser Thr Ser Pro Lys Ala Cys Ser Val Ala
65 70 75

<210> 1058
<211> 171
<212> PRT
<213> Pinus radiata

<400> 1058
Ser Phe Ser Cys Arg Ile Arg His Gln Thr Glu Pro Thr Leu Ile Leu

1 5 10 15
Ile Asp Thr Ala Gly Cys Asp Met Glu Glu Lys Lys Asp Asp Glu Asp
20 25 30
Ser Thr Met Asn Glu Gly Glu Ala Thr Val Thr Leu Met His Ala Lys
35 40 45
Lys Leu Leu Glu Ser Gly Val Asn Pro Ser Asp Ile Gly Ile Ile Thr
50 55 60
Pro Tyr Ala Ala Gln Val Gly Leu Leu Lys Ile Met Arg Ser Lys Glu
65 70 75 80
Met Lys Leu Lys Asp Leu Glu Ile Ser Thr Val Asp Gly Phe Gln Gly
85 90 95
Arg Glu Lys Glu Ala Ile Val Ile Ser Met Val Arg Ser Asn Ala Lys
100 105 110
His Glu Val Gly Phe Leu Asn Asp Arg Arg Arg Met Asn Val Ala Val
115 120 125
Thr Arg Ala Arg Arg Gln Cys Cys Ile Ile Cys Asp Thr Glu Thr Val
130 135 140
Ser Ser Asp Lys Phe Leu Lys Arg Leu Val Glu Tyr Phe Glu Glu His
145 150 155 160
Ala Glu Tyr Leu Ser Ala Ser Glu Tyr Leu Thr
165 170

<210> 1059
<211> 94
<212> PRT
<213> Pinus radiata

<400> 1059
Glu Lys Cys Ser Asp Gln Val Ser Gly Ser Thr Ser Ser Cys Arg Ile
1 5 10 15
Arg His Glu Leu Gly Tyr Ser Arg Ser Ala Lys Arg Cys Lys Glu Lys
20 25 30
Trp Glu Asn Ile Asn Lys Tyr Phe Arg Lys Ala Lys Glu Ser Asn Lys
35 40 45
Lys Arg Pro Glu Asn Ala Lys Thr Cys Pro Tyr Phe His Gln Leu Asp
50 55 60
Ala Leu Tyr Lys Lys Arg Asn Leu Gly Asn Arg His Asn Lys Ile Met
65 70 75 80
Val Leu Ser Ile Phe Ser Val Ala Ser Thr Gly Leu Phe Met
85 90

<210> 1060
<211> 174
<212> PRT
<213> Pinus radiata

<400> 1060
Met Ala Pro Ser Asn Asn Arg Arg Asp Asp Asn Gly Ala Arg Gly Val
1 5 10 15
His Phe Arg Gly Val Arg Lys Arg Pro Trp Gly Arg Tyr Ala Ala Glu
20 25 30
Ile Arg Asp Pro Trp Lys Lys Val Arg Leu Trp Leu Gly Thr Phe Asp
35 40 45
Thr Ala Glu Glu Ala Ala Arg Ala Tyr Asp Thr Ala Ala Ile Ser Leu
50 55 60
Arg Gly Pro Lys Ala Lys Thr Asn Phe Ala Tyr Ser Ser Pro Ser Ser
65 70 75 80

Ser Ser Ser Leu His Asn Asn Gln Ser Ser Ser Gln Asn Ser Ser Thr
85 90 95
Val Glu Ser Trp Pro Ser Ala Ala Pro Val Thr Arg Ser Gly Asp Leu
100 105 110
Glu Leu Pro Ala Ser Phe Leu Pro Arg Leu Gly Val Ser Thr Gly Arg
115 120 125
Arg Val Leu Asn Gly Gly Asn Pro Arg Ser Gly Arg Arg Arg Ser Leu
130 135 140
Ser Glu Lys Asn Ser Gly Arg Lys Ala Glu Gly Ala Glu Ala Arg Thr
145 150 155 160
Thr Leu Ser Asp Ser Asp Ser Ser Ser Ser Ala Val Leu Asp
165 170

<210> 1061
<211> 121
<212> PRT
<213> Pinus radiata

<400> 1061
Met Gly Pro Leu Met Gly Ser Pro Leu Gly Gly Gly Leu Gly Leu Ser
1 5 10 15
Pro Arg Met Gly Gly Gly Ile Gly Asn Gly Leu Gln Gly Gly Leu Gly
20 25 30
Val Gly Leu Ala Gly Leu Gly Ala Thr Ala Leu Thr Ile Gly Ala Ala
35 40 45
Ser Pro Ala Asn Gln Leu Ser Ser Asp Gly Met Gly Asn Ser His Gly
50 55 60
Asp Asn Ser Thr Val Ser Pro Ile Pro Tyr Gly Leu Asp Val Ser Val
65 70 75 80
Arg Gly Arg Lys Arg Gly Gly Pro Val Glu Lys Val Val Glu Arg Arg
85 90 95
Gln Arg Arg Met Ile Lys Asn Arg Glu Ser Ala Ala Arg Ser Arg Ala
100 105 110
Arg Lys Gln Ala Tyr Thr Val Asn Trp
115 120

<210> 1062
<211> 145
<212> PRT
<213> Pinus radiata

<400> 1062
Glu Thr Arg Gly Gly Ser Ser Gly Asp Phe Leu Pro Pro Pro Pro Thr
1 5 10 15
Thr Lys Cys Ser Glu Glu Leu Gln Asn Lys Ile Thr Lys Tyr Ile Ala
20 25 30
Leu Lys Ser Ala Gly Arg Ser Phe Asn Lys Glu Leu Arg Asn Ser Lys
35 40 45
Gly Tyr Arg Asn Pro Asp Phe Leu Gln Arg Ala Val Lys Tyr Gln Gly
50 55 60
Ile Asp Gln Ile Gly Ser Cys Phe Lys Lys Glu Ile Phe Asp Pro His
65 70 75 80
Gly Tyr Asp Pro Ser Asp Tyr Tyr Asp Ala Leu Ala Leu Glu Leu Lys
85 90 95
Arg Glu Phe Glu Arg Arg Glu Gln Glu Lys Gln Lys Asn Gln Arg Val
100 105 110
Asp Phe Val His Gly Ala Val Gln Thr Thr Ser Val Gln Ser Val Ser

115 120 125
Lys Pro Ile Val Gln Val Met Gly Gly Gln Lys Val Pro Val Val Gly
130 135 140
Val
145

<210> 1063
<211> 236
<212> PRT
<213> Pinus radiata

<400> 1063
Met Ser Ser Pro Gln Ser Asn Lys Trp Leu Ser Tyr Phe Asp Glu Pro
1 5 10 15
Leu Leu Asp Asp Val Gly Val Gly Gln Pro Ala Asn Pro Phe Phe Trp
20 25 30
Cys Gly Gln Gly Ile Asn Asp Gln Pro Asp Val Ser Val Glu Ile Asp
35 40 45
Gly Pro Asn Lys Asp Met Asp Glu Gln Asp Lys Leu Cys Pro Arg Lys
50 55 60
Arg Ser Arg Glu Glu Ser Ser Gly Gly Pro Gly Ser Lys Ala Cys Arg
65 70 75 80
Glu Lys Met Arg Arg Asp Arg Leu Asn Asp Arg Phe Met Glu Leu Ser
85 90 95
Ser Val Leu Glu Pro Gly Arg Pro Pro Lys Thr Ala Asp Lys Ala Thr
100 105 110
Ile Leu Ser Asp Ala Ala Arg Val Met Thr Gln Leu Arg Thr Glu Ala
115 120 125
Gln Asn Leu Lys Ala Glu Asn Glu Arg Leu Gln Glu Ala Ile Lys Asp
130 135 140
Leu Lys Ala Glu Lys Asn Glu Leu Arg Asp Glu Lys Leu Arg Met Lys
145 150 155 160
Ala Glu Lys Glu Lys Leu Asp Gln Gln Val Lys Ala Met Ala Leu Pro
165 170 175
Thr Gly Phe Val Pro His Pro Ala Ala Phe His Ala Ala Ala Ala Phe
180 185 190
Ala Ala Gln Ser Gln Ala Ala Ala Asn Lys Thr Met Pro Val Pro Gly
195 200 205
Tyr Pro Gly Met Ala Met Trp Gln Trp Met Pro Pro Ala Val Val Asp
210 215 220
Thr Ser Gln Asp His Val Leu Arg Pro Pro Val Ala
225 230 235

<210> 1064
<211> 145
<212> PRT
<213> Pinus radiata

<400> 1064
Met Gly Ser Arg Thr Met Leu Ser Ser Asn Gly Gly Arg Thr Pro Gln
1 5 10 15
Phe Gln Pro Leu Val Arg Gln Asn Ser Leu Tyr Asn Leu Thr Leu Glu
20 25 30
Glu Val Gln Asn Gln Leu Gly Asp Ala Ser Lys Pro Leu Ser Ser Met
35 40 45
Asn Met Asp Glu Leu Leu Lys Asn Ile Trp Thr Gln Glu Glu Ser Gln
50 55 60

Ala Ile Ser Met Ala Ile Gly Asn Gly Pro Met Asn Gly Val Pro Pro
65   70   75   80
Asn Ser Ala Pro Ala Ser Gly Gly Leu Gln Arg Gln Gly Ser Leu Thr
                85   90   95
Ile Pro Arg Thr Leu Ser Arg Lys Thr Val Asp Glu Val Trp Arg Asp
            100   105   110
Ile Gln Gln Ser Gln Gly Lys Ser Asn Glu Glu Lys Lys Pro Gln Gln
        115   120   125
Arg Gln Ser Thr Phe Gly Glu Met Thr Leu Glu Asp Phe Leu Val Lys
    130   135   140
Ala
145

<210> 1065
<211> 171
<212> PRT
<213> Pinus radiata

<400> 1065
Met Ala Ser Gly Asn Val Asp Pro Asp Gln Trp Glu Phe Ala Asn Glu
1   5   10   15
Asp Phe Leu Arg Gly Gln Arg Asn Leu Leu Lys Asn Ile His Arg Arg
            20   25   30
Lys Pro Met His Ser His Ser Gln Asn Pro Gln Gln Gly Val Cys Asn
        35   40   45
Asp Ala Ile Lys Tyr Glu Leu Glu Glu Glu Ile Gln Arg Leu Lys Arg
    50   55   60
Asp Lys Gly Leu Leu Met Met Glu Leu Val Arg Ile Arg Gln Gln His
65   70   75   80
Gln Gly Thr Glu Met His Met Gln Thr Leu Glu Glu Arg Leu Gln Ala
                85   90   95
Met Glu His Arg Gln Gln Gln Met Met Ala Phe Leu Ala Lys Ala Val
            100   105   110
Gln Lys Pro Gly Phe Val Ala Gln Leu Val Gln Gln Ser Glu Asn Asn
        115   120   125
Lys Leu Leu Glu Ala Ala Asn Lys Lys Arg Arg Leu Pro Lys Gln Glu
    130   135   140
Asn Cys Ser Glu Ala Gly Glu Thr Glu Leu Thr Asp Ser Gln Ile Val
145   150   155   160
Lys Tyr Gln Pro Ala Ser Gly Asp Glu Cys Ser
                165   170

<210> 1066
<211> 112
<212> PRT
<213> Pinus radiata

<400> 1066
Val Ala Ala Ala Ser Ala Ser Ala Ser Gly Thr Ala Val Ala Ala Ser
1   5   10   15
Leu Pro Val Asn Gly Ala Ala Gly Val Arg Ser Ser Val Asp Ser Glu
            20   25   30
His Ser Asp Ile Glu Ala Ser Phe Lys Glu Ala Glu Cys Ser Gln Ala
        35   40   45
Ile Val Glu Arg Arg Pro Arg Lys Arg Gly Arg Lys Pro Ala Asn Gly
    50   55   60
Arg Glu Glu Pro Leu Asn His Val Glu Ala Glu Arg Gln Arg Arg Glu

65   70   75   80
Lys Leu Asn Gln Arg Phe Tyr Ala Leu Arg Ala Val Val Pro Asn Val
                85   90   95
Ser Lys Met Asp Lys Ala Ser Leu Leu Gly Asp Ala Ile Ser Tyr Ile
            100   105   110

<210> 1067
<211> 73
<212> PRT
<213> Pinus radiata

<400> 1067
Leu Tyr Ala Glu Glu Ser Ser Thr Val Thr His Leu Gln Tyr Gln Gln
1   5   10   15
Ser Ile Leu Glu Asn Asp Leu Arg Ser Lys Leu Lys Asp Asn Leu Gln
            20   25   30
Gln Pro Gln Asn Ser Gly Lys Lys Arg Arg Tyr Arg Gly Val Arg Gln
        35   40   45
Arg Pro Trp Gly Lys Trp Ala Ala Glu Ile Arg Asp Pro Lys Lys Ala
    50   55   60
Ala Arg Val Trp Leu Gly Thr Phe Asp
65   70

<210> 1068
<211> 203
<212> PRT
<213> Pinus radiata

<400> 1068
Asn Met Ala Lys His Thr Val Cys Ala Ser Phe Leu Asn Glu Gly Asp
1   5   10   15
Phe Ile Cys Pro Pro Tyr Glu Asp Gly Ile Gly Leu Glu Trp Leu Ser
            20   25   30
Asp Phe Val Glu Asp Ser Phe Ala Ala Thr Gly Ser Ser Asn Ser Gly
        35   40   45
Ser Leu Ala Asp Leu Ser Lys Asp Lys Ile Asp Asp Asn Arg Glu Lys
    50   55   60
Lys Lys Gln Asn Pro Thr Asp Glu Ala Ile Ile Pro Glu Ile Pro Pro
65   70   75   80
Ile Lys Glu Thr Pro Arg Ser Gln Arg Ala Val Pro Gly Arg Ala Arg
                85   90   95
Ser Lys Arg Arg Arg Ser Ser Gly Ala Pro Ile Arg Gly Trp Ser Thr
            100   105   110
Ser Glu Asp Tyr Ala Leu Gln Asn Glu Gly Gly Met Lys Thr Val Thr
        115   120   125
Gly Ala Asp Ala Ile Asn His Tyr Gln Ser Ser Ala Pro Gln Gln Gln
    130   135   140
Pro Arg Arg Cys Thr His Cys Leu Ser Gln Arg Thr Pro Gln Trp Arg
145   150   155   160
Leu Gly Pro Leu Gly Pro Lys Thr Leu Cys Asn Ala Cys Gly Val Arg
                165   170   175
Phe Lys Ser Gly Arg Leu Phe Pro Glu Tyr Arg Pro Ala Lys Ser Pro
            180   185   190
Thr Phe Ile Arg Tyr Ile His Ser Asn Ser His
        195   200

<210> 1069

<211> 190
<212> PRT
<213> Pinus radiata

<400> 1069
Gly Asn Ala Ala Arg Arg Pro His Asp Val Leu Leu Lys Leu Glu Lys
1   5   10   15
Leu Ser Ser Gln Thr Thr Leu Glu Ser Leu Gln Arg Leu Ile Val Gln
            20   25   30
Lys Lys Cys Leu Leu Phe Gly Lys Lys Val Gly Ile Arg Ile Asp Gly
        35   40   45
Lys Lys Thr Ala Asn Thr Glu Lys Val Asn Glu Arg Asn Thr Ile Pro
    50   55   60
Arg Ile Ile Phe Gly Ala Leu Thr Phe Thr Arg Asn Arg Pro His Ala
65   70   75   80
Leu Ser Lys Asn Gly Ser Ile Ala Asp Thr Arg Arg Asn Ile Cys Gly
                85   90   95
Ala Pro Gln Glu Asp Gly Thr Ile Cys Thr Ala Ile Pro Leu Lys Ser
            100   105   110
Arg Lys Arg Cys Pro Asp His Lys Gly Gln Lys Gly Gln Lys Glu Lys
        115   120   125
Asn Leu Ser Lys Ile Asn Ile Ser Ala Asn Val Glu Ser Arg Asn Gln
    130   135   140
Gly Val Gly Glu His Glu Asn Glu Tyr Arg Tyr Cys Gly Val Leu Leu
145   150   155   160
Lys Asp Gly Ser Thr Cys Lys Ile Ile Pro Asp Lys Gly Arg Lys Arg
                165   170   175
Cys Asn Ile His Lys Gly Met Arg Ile Pro Gly Gln Ala Lys
            180   185   190

<210> 1070
<211> 81
<212> PRT
<213> Pinus radiata

<400> 1070
Met Ala Thr Ser Asn Pro Phe Asp Leu Leu Gly Asp Asp Asp Asn Gly
1   5   10   15
Asp Val Ser Gln Leu Val Phe Val Pro Gln Glu Lys Pro Thr Val Lys
            20   25   30
Lys Ala Ser Gln Pro Ala Gln Thr Ala Thr Ala Lys Leu Pro Ser Lys
        35   40   45
Pro Leu Pro Pro Ala Gln Ala Val Arg Glu Ser Arg Asn Gly Val Gly
    50   55   60
Arg Gly Gly Arg Gly Gly Arg Gly Gly Asp Arg Asn Gln Asp Val Gly
65   70   75   80
Tyr

<210> 1071
<211> 154
<212> PRT
<213> Pinus radiata

<400> 1071
Met Asn Arg Glu Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
1   5   10   15

Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Thr Ile His Arg Thr Thr
20 25 30
Thr Thr Asp Asp Lys Lys Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
35 40 45
Asn Ala Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Leu Glu Asp Ser
50 55 60
Val Ile His Phe Gln Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
65 70 75 80
Thr Trp Val Val Ser Gly Ser Pro Gln Thr Lys Arg Leu Gln Asp Leu
85 90 95
Leu Pro Gly Ile Ile Asn Gln Leu Gly Pro Asp Ser Phe Ala Asn Leu
100 105 110
Arg Lys Leu Ala Gln Gln Phe Gln Lys Glu Val Pro His Pro Ala Val
115 120 125
Glu Glu Asp Asp Asp Asp Val Pro Glu Leu Val Glu Gly Glu Thr Phe
130 135 140
Glu Glu Ala Ala Lys Gln Glu Ser Ala Ala
145 150

<210> 1072
<211> 63
<212> PRT
<213> Pinus radiata

<400> 1072
Met Pro His Gln His Gln His Gln Glu Arg Phe Pro Ser Gln Glu Gly
1 5 10 15
Ile Ser Trp Lys Arg Asp Asp Glu Leu Pro Gln Pro Gln Asn Pro Pro
20 25 30
Lys Lys Lys Arg Tyr Arg Gly Val Arg Gln Arg Pro Trp Gly Lys Trp
35 40 45
Ala Ala Glu Ile Arg Asp Pro Lys Lys Ala Ala Arg Val Trp Leu
50 55 60

<210> 1073
<211> 331
<212> PRT
<213> Pinus radiata

<400> 1073
Met Gly Gln Ile Gly Gly Pro His Gly Tyr Pro Asn Ser Ser Pro Ser
1 5 10 15
Ala Gln Asp Ala Leu Tyr Glu Glu Leu Trp His Ala Cys Ala Gly Pro
20 25 30
Leu Val Thr Leu Pro Arg Ile Gly Glu Arg Val Phe Tyr Phe Pro Gln
35 40 45
Gly His Met Glu Gln Val Glu Ala Ser Thr Asn Gln Gly Ala Asp Gln
50 55 60
His Met Pro Leu Phe Asn Leu Pro Tyr Lys Ile Leu Cys Arg Val Ile
65 70 75 80
Asn Val Gln Leu Lys Ala Glu Pro Asp Thr Asp Glu Val Phe Ser Gln
85 90 95
Ile Thr Leu Leu Pro Glu Ala Glu Gln Asp Glu Ser Ser Val Glu Lys
100 105 110
Glu Pro Leu Thr Pro Leu Pro Pro Lys Pro Leu Val Tyr Ser Phe Cys
115 120 125
Lys Thr Leu Thr Ala Ser Asp Thr Ser Thr His Gly Gly Phe Ser Val

130 135 140
Leu Arg Arg His Ala Asp Glu Cys Leu Pro Pro Leu Asp Met Ser Gln
145 150 155 160
Gln Pro Pro Ser Gln Asp Leu Val Ala Lys Asp Leu His Gly Val Glu
165 170 175
Trp Arg Phe Arg His Ile Phe Arg Gly Gln Pro Arg Arg His Leu Leu
180 185 190
Thr Thr Gly Trp Ser Val Phe Val Ser Ser Lys Arg Leu Val Ala Gly
195 200 205
Asp Ala Phe Ile Phe Leu Arg Gly Glu Asn Gly Glu Leu Arg Val Gly
210 215 220
Val Arg Arg Ala Met Arg Gln Gln Asn Asn Val Pro Ser Ser Val Ile
225 230 235 240
Ser Ser His Ser Met His Leu Gly Val Ile Ala Thr Ala Ser His Ala
245 250 255
Val Thr Thr Lys Thr Met Phe Ser Val Tyr Tyr Lys Pro Arg Thr Ser
260 265 270
Pro Ser Glu Phe Ile Ile Pro Tyr Asp Gln Tyr Met Glu Ser Met Lys
275 280 285
Ile Asn Phe Ser Val Gly Met Arg Phe Lys Met Lys Phe Glu Gly Glu
290 295 300
Glu Val Pro Glu Gln Arg Phe Thr Gly Thr Ile Val Gly Ile Ser Asp
305 310 315 320
Ala Asp Pro Val Asn Trp Pro Asn Ser Lys Trp
325 330

<210> 1074
<211> 113
<212> PRT
<213> Pinus radiata

<400> 1074
Met Thr Gln Ala Thr Asn Tyr Thr Ala Gly Thr Ile Arg Asp Asp Gln
1 5 10 15
Glu Glu Gln Cys Val Arg Arg Gly Pro Trp Thr Val Asp Glu Asp Met
20 25 30
Ser Leu Ile Arg Cys Val Thr Thr Arg Gly Glu Gly Arg Trp Asn Thr
35 40 45
Val Ala Lys Phe Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu
50 55 60
Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Lys Arg Gly Asn Ile Thr
65 70 75 80
Pro Glu Glu Gln Leu Leu Ile Leu Glu Leu His Arg Leu Trp Gly Asn
85 90 95
Arg Trp Ser Lys Ile Ala Arg Gln Leu Pro Gly Arg Thr Asp Asn Glu
100 105 110
Ile

<210> 1075
<211> 44
<212> PRT
<213> Pinus radiata

<400> 1075
Met Ala Glu Asn Tyr Gly Ser Pro Asp Ser Ser Pro Arg Ser Glu Asn
1 5 10 15

Glu Ser Gly Gly Gly His Met Gly Gly Ser Asp Phe Ser Val Lys Glu
20 25 30
Gln Asp Arg Phe Leu Pro Ile Ala Asn Val Gly Arg
35 40

<210> 1076
<211> 282
<212> PRT
<213> Pinus radiata

<400> 1076
Met Pro Met Leu Ala Glu Thr Tyr Arg Asp Ser Phe Glu Thr Thr Ser
1 5 10 15
Gly Gly Ser Ser Val Asp Leu Val Gly Met Ala Leu Pro Gly Leu Ala
20 25 30
Pro Asn Leu Ser Ser Ala Ser Val Ser Ala Ser Ala Ser Glu Asp Ser
35 40 45
Ala Lys Lys Ile Arg Lys Pro Tyr Thr Ile Thr Lys Ser Arg Glu Ser
50 55 60
Trp Ser Glu Gln Glu His Asp Lys Phe Leu Glu Ala Leu Gln Leu Phe
65 70 75 80
Asp Arg Asp Trp Lys Lys Ile Glu Ala Phe Val Gly Ser Lys Thr Val
85 90 95
Ile Gln Ile Arg Ser His Ala Gln Lys Tyr Phe Leu Lys Val Gln Lys
100 105 110
Asn Gly Thr Arg Glu His Val Pro Pro Pro Arg Pro Lys Arg Lys Ala
115 120 125
Ser His Pro Tyr Pro Gln Lys Ala Ser Lys Asn Val Pro Val Ser Gln
130 135 140
Gln Val Ser Thr Ala Phe Pro Thr Ala Ala Thr Gln Leu Asp Ser Gly
145 150 155 160
Tyr Tyr Pro Arg Ala Glu Ser Ser Ser Ile Leu Thr Lys Ser Gly Ser
165 170 175
Ser Cys Pro Thr Val Ser Ser Trp Val His His Thr Ile Pro Ser Ile
180 185 190
Asp Ala Ser Phe Val Glu Lys Asp Asp Gly Gly Pro Pro Gly Ile Glu
195 200 205
Thr Gly Asn Asn Cys Ser Ser Gly Ser Thr Glu Ser Ser Pro Pro Thr
210 215 220
Trp Pro Pro Cys Ser Glu Ile Pro Glu Lys Val Lys Pro Asp Phe Ser
225 230 235 240
Gln Val Tyr Lys Phe Ile Gly Ser Val Phe Asp Pro Ser Thr Thr Asp
245 250 255
His Leu Lys Lys Leu Lys Glu Trp Ile Gln Leu Ile Leu Lys Leu Cys
260 265 270
Cys Thr His Glu Glu Pro Phe His Asn Leu
275 280

<210> 1077
<211> 104
<212> PRT
<213> Pinus radiata

<400> 1077
Met Gly Arg Ser Phe Ser Cys Trp Ser Cys Ser Lys Asp Asn Gly His
1 5 10 15
Glu Arg Leu Asn Arg Gly Ser Trp Ser Ala Glu Glu Asp Thr Ile Leu

20 25 30
Ser Glu His Ile Lys Thr His Gly Val Gly Arg Trp Thr Ser Leu Pro
35 40 45
Lys Lys Ala Gly Leu Lys Arg Ser Gly Lys Ser Cys Arg Leu Arg Trp
50 55 60
Phe Asn Tyr Leu Arg Ser Asp Ile Lys His Gly Asn Ile Ser Pro Glu
65 70 75 80
Glu Glu Glu Leu Leu Ile Arg Leu His Arg Leu Leu Gly Asn Arg Trp
85 90 95
Ser Leu Ile Ala Gly Arg Leu Pro
100

<210> 1078
<211> 93
<212> PRT
<213> Pinus radiata

<400> 1078
Met Asp Arg Asp Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
1 5 10 15
Gly Lys Gly Thr Val Arg Arg Lys Lys Lys Ala Val His Arg Ala Thr
20 25 30
Thr Thr Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Leu Gly Val
35 40 45
Asn Thr Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Glu Met
50 55 60
Val Ile His Phe Ile Asn Pro Lys Val Gln Ala Ser Ile Asn Ala Asn
65 70 75 80
Thr Trp Val Val Ser Gly Ser Pro Gln Thr Lys Asn Leu
85 90

<210> 1079
<211> 118
<212> PRT
<213> Pinus radiata

<400> 1079
Met Asp Arg Asp Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
1 5 10 15
Gly Lys Gly Thr Val Arg Arg Lys Lys Lys Ala Val His Arg Ala Thr
20 25 30
Thr Thr Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Leu Gly Val
35 40 45
Asn Thr Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Glu Met
50 55 60
Val Ile His Phe Ile Asn Pro Lys Val Gln Ala Ser Ile Asn Ala Asn
65 70 75 80
Thr Trp Val Val Ser Gly Ser Pro Gln Thr Lys Asn Leu Gln Asp Leu
85 90 95
Leu Pro Gly Ile Ile Asn Gln Leu Gly Pro Asp Asn Leu Ile Asn Leu
100 105 110
Lys Lys Ile Ala Gln Gln
115

<210> 1080
<211> 191
<212> PRT

<213> Pinus radiata

<400> 1080

Asp Asp Glu Glu Glu Ala Ser Leu Lys Gly Lys Val Arg Trp Gly Leu
1 5 10 15
Asp Ser Ile Ala Ala Leu Gly Leu Lys Phe Ile Lys Arg Ala Leu Ala
20 25 30
Lys Lys Lys Thr Val Gly Ile Ala Gly Gly Ala Asp Arg Val Leu Leu
35 40 45
Ser Gly Arg Met Lys Leu Lys Pro Lys Gly Leu Met Cys Val Phe Cys
50 55 60
Gly Leu Leu Arg Val Arg Gly Asn Gly Ile Ile Gly Val Lys Val Phe
65 70 75 80
Leu Glu Lys Tyr Ala Gly Ser Ser Gln Gln Glu Ile Leu Arg Val Glu
85 90 95
Ile Ser Leu Ser Phe Ala Phe Gln Asn Glu Asp Arg Leu Leu Pro Ala
100 105 110
Ala Ser Gly Arg Gly Lys Glu Glu Ser Gln Phe Arg Ala Met Ala Cys
115 120 125
Met Cys Trp Ala Thr Cys Val Pro Thr Cys Cys Trp Glu Pro Cys Cys
130 135 140
Ile Phe Ser Ser Arg Ser Gln Ala Gly Gly Cys Leu Asn Lys Gln Glu
145 150 155 160
Val Asp Ala His Ile Pro Asn Tyr Pro Asn Leu Pro Pro Gln Leu Ile
165 170 175
Cys His Tyr Thr Met Leu Leu Cys Arg Gln Met Trp Arg Gln Met
180 185 190

<210> 1081
<211> 86
<212> PRT
<213> Pinus radiata

<400> 1081

Ile Asp Ser Ser Glu Lys Arg Leu Lys Gly Lys Asn Tyr Ile Asp Ile
1 5 10 15
Thr Thr Glu Arg Ala Ala Gln Glu Pro Gly Cys Ile Met Ala Arg Pro
20 25 30
Gln Arg Tyr Arg Gly Val Arg Gln Arg His Trp Gly Ser Trp Val Ser
35 40 45
Glu Ile Arg His Pro Leu Leu Lys Thr Arg Ile Trp Leu Gly Thr Phe
50 55 60
Glu Thr Ala Glu Asp Ala Ala Arg Ala Tyr Asp Glu Ala Ala Arg Met
65 70 75 80
Met Cys Gly Pro Arg Ala
85

<210> 1082
<211> 119
<212> PRT
<213> Pinus radiata

<400> 1082

Met Val Arg Ser Pro Cys Cys Asp Lys Val His Thr Asn Asn Lys Gly
1 5 10 15
Ala Trp Thr Lys Glu Glu Asp Glu Arg Leu Ile Ala His Ile Glu Ala
20 25 30

His Gly Glu Gly Ser Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu
35 40 45
Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro
50 55 60
Asp Leu Lys Arg Gly Ser Phe Ser Glu Glu Glu Asp Asp Leu Ile Ile
65 70 75 80
Lys Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg
85 90 95
Leu Gln Gly Glu Arg Thr Thr Lys Ile Lys Asn Tyr Trp Asn Thr His
100 105 110
Met Lys Arg Lys Leu Leu Ser
115

<210> 1083
<211> 128
<212> PRT
<213> Pinus radiata

<400> 1083
Met Gly Arg Ser Pro Cys Pro Pro Lys Glu Ala Leu Asn Arg Gly Ala
1 5 10 15
Trp Thr Gly Met Glu Asp Thr Ile Leu Thr Glu Tyr Ile Arg Val His
20 25 30
Gly Ser Gly Gly Trp Lys Asp Ile Ser Lys Arg Ala Gly Leu Lys Arg
35 40 45
Cys Ala Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp
50 55 60
Ile Lys Arg Gly Asn Ile Ser Pro Glu Glu Glu Glu Leu Ile Ile Arg
65 70 75 80
Leu His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Met
100 105 110
Ser Lys Lys Pro Trp Leu Ser Met Asp Glu Ser Gln Ser Asn Thr Ser
115 120 125

<210> 1084
<211> 126
<212> PRT
<213> Pinus radiata

<400> 1084
Glu Glu Glu Asp Glu Glu Glu Ala Gly Lys Glu Leu Glu Ala Trp Glu
1 5 10 15
Arg Ala Tyr Ala Asp Glu Arg Ser Trp Glu Thr Leu Gln Glu Asp Glu
20 25 30
Glu Gly Leu Leu Asn Phe Asp Lys Lys Gln Gln Gln Gln Gln Gln Arg
35 40 45
Gln Tyr Arg Arg Arg Leu Gln Ser Ala Ala Ala Ala Ala Ser Asn Ile
50 55 60
Gln Arg Gly Leu Ile Arg Tyr Leu Tyr Ile Ile Ile Asp Phe Ser Arg
65 70 75 80
Ala Ala Ala Glu Lys Asp Phe Lys Pro Asn Arg Met Val Val Val Ala
85 90 95
Asn Cys Val Glu Ala Phe Val Arg Glu Phe Phe Asp Gln Asn Pro Leu
100 105 110
Ser Gln Leu Gly Ile Val Ile Ile Lys Asn Gly Val Ala His

115 120 125

<210> 1085
<211> 139
<212> PRT
<213> Pinus radiata

<400> 1085
Arg Ala Pro Cys Cys Glu Lys Thr His Thr Asn Lys Gly Ala Trp Ser
1 5 10 15
Lys Asp Glu Asp Glu Ala Leu Val Ala Tyr Ile Gln Ala His Gly Glu
20 25 30
Gly Ser Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Gln Arg Cys Gly
35 40 45
Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys
50 55 60
Arg Gly Asn Phe Ser Pro Glu Glu Asp Glu Ile Ile Lys Leu His
65 70 75 80
Ser Met Leu Gly Asn Lys Trp Ser Leu Ile Ala Ser Lys Leu Pro Gly
85 90 95
Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Ile Lys Arg
100 105 110
Lys Met Leu Glu Arg Gly Leu Asp Pro Ser Thr His Leu Pro Leu Met
115 120 125
Ser Asp His Gly Ser Phe Glu Ser Ser Ser Lys
130 135

<210> 1086
<211> 189
<212> PRT
<213> Pinus radiata

<400> 1086
Lys Val Val Pro Pro Leu Asp Phe Thr Gln Gln Pro Pro Ala Gln Glu
1 5 10 15
Leu Thr Ala Arg Asp Leu His Asp Asn Glu Trp Lys Phe Arg His Ile
20 25 30
Phe Arg Gly Gln Pro Lys Arg His Leu Leu Thr Thr Gly Trp Ser Val
35 40 45
Phe Val Ser Ala Lys Arg Leu Ala Ala Gly Asp Ser Val Leu Phe Ile
50 55 60
Trp Asn Glu Lys Gly Gln Leu Leu Leu Gly Ile Arg Arg Ala Asn Arg
65 70 75 80
Pro Gln Ala Val Met Pro Ser Leu Val Leu Ser Ser Asp Ser Met His
85 90 95
Ile Gly Leu Leu Ala Ala Ala Ala His Ala Ala Ala Thr Asn Ser Arg
100 105 110
Phe Thr Ile Phe Tyr Asn Pro Arg Ala Ser Pro Ser Glu Phe Val Ile
115 120 125
Pro Leu Ala Lys Tyr Val Lys Ala Val Tyr His Thr Arg Val Ser Ile
130 135 140
Gly Met Arg Phe Arg Met Leu Phe Glu Thr Glu Glu Ser Ser Val Arg
145 150 155 160
Arg Tyr Met Gly Thr Ile Thr Gly Ile Ser Asp Leu Asp Gln Val Arg
165 170 175
Trp Pro Asn Ser His Trp Arg Ser Val Lys Val Gly Trp
180 185

<210> 1087
<211> 132
<212> PRT
<213> Pinus radiata

<400> 1087
Trp Glu Phe Ala Asn Asp Cys Phe Arg Lys Gly Glu Lys Gln Leu Leu
1   5   10   15
Cys Glu Ile His Arg Arg Lys Ser Val Gln Gln Ser Ser Ala Ala Pro
            20   25   30
Ala Ser Arg Cys Val Ser Pro Val Asn Ser Val Glu Glu Gln Ala Leu
        35   40   45
Ser Ser Thr Ser Ser Pro Val Ser Ser His Ala Glu Ala Ala Leu Val
    50   55   60
Asn Cys Gly Gln Asn Ser Thr Ser Gly Leu His Gly Glu Asn Glu Lys
65   70   75   80
Leu Arg Lys Asp Asn Leu Leu Leu Met Ser Glu Leu Ala Gln Met Lys
                85   90   95
Lys Gln Cys Asn Asp Leu Leu Leu Phe Leu Ser Lys Cys Val Asn Ile
            100   105   110
Thr Pro Asp Asn Leu Ser Asn Ile Leu Ile Ala Ala Ser Gln Thr Asn
        115   120   125
Cys Arg Asp Glu
    130

<210> 1088
<211> 214
<212> PRT
<213> Pinus radiata

<400> 1088
Gly Lys Trp Gly Val Pro Asp Asn Leu Tyr Gly Ala Gln Glu Asp Ser
1   5   10   15
Gly Gly Ser Ser Val Lys Gln Lys Asn Leu Lys Asp Gly Asp Gln Phe
            20   25   30
Thr Ser Ser Asp Glu Ala Asp Ser Glu Val Asn Glu Phe Asn Ile Met
        35   40   45
Lys Arg Ser Asn Ser Gly Val Gly Tyr Glu Asp Asn Lys Arg Ser Gly
    50   55   60
Gly Gln Gly Asp Gly Asn Gln Tyr Arg Ser Arg His Ser Arg Ser Ile
65   70   75   80
Ser Met Asp Ser Ile Met Ser Lys Met His Asn Phe Ser Glu Asp Leu
                85   90   95
Glu Gln Glu Pro Ser Gln Gly Arg Asn Val Arg His Ser His Ser Asn
            100   105   110
Ser Met Asp Gly Ser Thr Asn Phe Asn Val Glu Phe Gly Asn Gly Glu
        115   120   125
Phe Ser Ala Ser Glu Met Lys Lys Ile Met Ala Ser Glu Lys Leu Ala
    130   135   140
Glu Leu Ala Thr Val Asp Pro Lys Arg Val Lys Arg Ile Leu Ala Asn
145   150   155   160
Arg Gln Ser Ala Ala Arg Ser Lys Glu Arg Lys Met Arg Tyr Ile Ser
                165   170   175
Glu Leu Glu Arg Lys Val Gln Thr Leu Gln Thr Glu Ala Thr Thr Leu
            180   185   190
Ser Ala Gln Leu Thr Leu Leu Gln Arg Asp Gln Leu Asp Trp Ala Val

195 200 205
Arg Thr Thr Ser Ser Ser
210

<210> 1089
<211> 97
<212> PRT
<213> Pinus radiata

<400> 1089
Met Ala Asp Gly His Gln Phe Asn Asn Ile Leu Leu Val Gly Arg Gly
1 5 10 15
Gly Thr Asn Pro Gly Gln Leu Arg Ile His Ser Gly Gly Ile Val Trp
20 25 30
Arg Arg Gln Gly Gly Gly Lys Val Val Asp Val Ala Lys Asn Glu Val
35 40 45
Lys Ser Leu Ser Trp Thr Arg Val Pro Arg Gly Tyr Gln Leu Gly Val
50 55 60
Lys Leu Lys Ala Gly Leu Asn Ile Lys Leu Ala Gly Phe Arg Glu Gln
65 70 75 80
Asp Val Gly Asn Leu Thr Asn Phe Met Thr Asn Thr Ile Gly Leu Ala
85 90 95
Pro

<210> 1090
<211> 108
<212> PRT
<213> Pinus radiata

<400> 1090
Met Gly Asp His Ser Gly Gly Glu Ser Ser Pro His Ser Asp Ile Glu
1 5 10 15
Ser Thr Gly Ile His Asn Asn Gly Ser Ser Ser Ser Ser Gln Ser Ile
20 25 30
Ile Arg Glu Gln Asp Arg Leu Leu Pro Ile Ala Asn Val Gly Arg Ile
35 40 45
Met Lys Lys Thr Leu Pro Thr Asn Ala Lys Ile Ser Lys Glu Ala Lys
50 55 60
Glu Ile Met Gln Glu Cys Val Ser Glu Phe Ile Ser Phe Val Thr Gly
65 70 75 80
Glu Ala Ser Asp Lys Cys His Lys Glu Lys Arg Lys Thr Ile Asn Gly
85 90 95
Asp Asp Ile Leu Trp Ala Met Thr Thr Leu Gly Phe
100 105

<210> 1091
<211> 90
<212> PRT
<213> Pinus radiata

<400> 1091
Arg Asn Ile Gln Arg Asn Glu Tyr His Asn Leu Phe Asn Phe Ile Ser
1 5 10 15
Ser Lys Gly Leu Lys Ile Met Asn Leu Gly Asp Ala His Gly Thr Ser
20 25 30
Gly Val Ala Ala Val Leu Glu Asn Ser Asp Asp Glu Ala Val Asp Pro

35 40 45
His Leu Glu Arg Ile Lys Ser Ala Arg Glu Gly Gly Ala Gly Glu Asp
50 55 60
Ser Asp Glu Glu Ala Cys Tyr Thr Gly Asp Leu Ser Leu Ile Cys Ala
65 70 75 80
Val Val Lys Glu Leu Ile Cys Thr His Asp
85 90

<210> 1092
<211> 133
<212> PRT
<213> Pinus radiata

<400> 1092
Met Gly Cys Val Ser Ser Lys Val Glu Asn Glu Glu Leu Val Lys Arg
1 5 10 15
Cys Arg Asp Arg Arg Arg Leu Met Lys Gln Ala Val Asn Ser Arg His
20 25 30
Asn Phe Ala Ala Ala His Ile Ala Tyr Leu Arg Ala Leu Gln Asn Thr
35 40 45
Gly Asn Ala Leu Val Gln Phe Ala Glu Gly Glu Ser Ser Ala Met Asn
50 55 60
Gly Asn Ala Ile Glu Glu Ala Ala Thr Pro Met Pro Ala Thr Pro Leu
65 70 75 80
Thr Ala Ser His Arg His Pro Met Lys Phe His Pro Pro Pro Pro Pro
85 90 95
Pro Pro Pro Pro Leu Val Pro Ser Ser Pro Ser Val Ser Pro Ser Met
100 105 110
Glu Ser Phe Arg Met Pro Ser Lys His Asn Pro Leu Ser Arg Ser Thr
115 120 125
Ser Asp Ile Ser Tyr
130

<210> 1093
<211> 148
<212> PRT
<213> Pinus radiata

<400> 1093
Met Gly Arg Ala Pro Cys Cys Thr Lys Val Gly Leu Asn Lys Gly Ala
1 5 10 15
Trp Ser Ala Glu Glu Asp Ser Leu Leu Gly Arg Tyr Ile Gln Thr His
20 25 30
Gly Glu Gly Asn Trp Arg Ser Leu Pro Lys Lys Ala Gly Leu Arg Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Cys
50 55 60
Ile Lys Arg Gly Asn Ile Thr Thr Asp Glu Glu Glu Leu Ile Ile Arg
65 70 75 80
Met His Ala Leu Leu Gly Asn Arg Trp Ser Ile Ile Ala Gly Arg Val
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr Asn Leu
100 105 110
Ser Lys Lys Leu Ala Val Arg Gly Ile Asp Pro Lys Thr His Lys Lys
115 120 125
Ile Thr Thr Asp Gly Thr Asn Arg Val Asn Gly Asp Arg Phe Ser Gln
130 135 140

Arg Lys Gly Glu
145

<210> 1094
<211> 107
<212> PRT
<213> Pinus radiata

<400> 1094
Arg Gln Leu Ile Arg Glu Leu Glu Gln Met Phe Asn Ile Glu Gly Glu
1   5   10   15
Leu Glu Asp Pro Ser Lys Gly Trp Gln Val Val Tyr Thr Asp Asn Glu
            20   25   30
Gly Asp Met Met Leu Val Gly Asp Asp Pro Trp Gln Glu Phe Cys Ser
        35   40   45
Ile Val Arg Lys Ile Tyr Ile Tyr Thr Arg Glu Glu Val Glu Lys Met
    50   55   60
Thr Pro Gln Thr Pro Ser Ala Asn Ser Arg Asp Val Gln Lys Ser Leu
65   70   75   80
Ser Gln Glu Glu Thr Ser Arg Ser Ser Asp Arg Gln Asp Ser Ser Ile
                85   90   95
Ala Gly Val Thr Ala Glu Arg Ser Ser Asp Ala
            100   105

<210> 1095
<211> 275
<212> PRT
<213> Pinus radiata

<400> 1095
Met Ser Asn Gly Arg Leu Cys Glu Asp Leu Asp Arg Ile Lys Gly Pro
1   5   10   15
Trp Ser Pro Glu Glu Asp Ala Ser Leu Gln Arg Leu Val Gln Lys Tyr
            20   25   30
Gly Pro Arg Asn Trp Thr Leu Ile Ser Lys Gly Ile Pro Gly Arg Ser
        35   40   45
Gly Lys Ser Cys Arg Leu Arg Trp Cys Asn Gln Leu Ser Pro Gln Val
    50   55   60
Glu His Arg Pro Phe Thr Pro Ser Glu Asp Ala Ala Ile Leu Gln Ala
65   70   75   80
His Ala Gln His Gly Asn Lys Trp Ala Thr Ile Ala Arg Ala Leu Pro
                85   90   95
Gly Arg Thr Asp Asn Ala Ile Lys Asn His Trp Asn Ser Thr Leu Arg
            100   105   110
Arg Arg Cys Arg Asp Pro Lys Lys Gly Ile Val Val His Leu Asp Asp
        115   120   125
Glu Ile Ser Ser Leu Asp Ala Ala Arg Lys Arg Ser Ser Asp Gly Phe
    130   135   140
Ser His Asp Gly Ser Ser Ala Leu Glu Asp Asn Gly Cys Ser Ser Trp
145   150   155   160
Glu Val Asp Ser Lys Arg Leu Lys Arg Leu Gly Glu Leu Gly Thr Glu
                165   170   175
Gln Gly Pro Glu Val Glu Ala Glu Val Glu Val Ser Asp Arg Ser Asp
            180   185   190
Ala Asn Pro Gly Arg Val Leu Tyr Arg Pro Val Pro Val Val Ser Phe
        195   200   205
Phe Ser Ser Phe Gly Lys Thr Val Ala Asn Leu Gln Glu Thr Ala Ala

210 215 220
Gly Ala Val Gly Val Asp Pro Pro Thr Ser Leu Ser Leu Ser Leu Pro
225 230 235 240
Gly Leu Asp Pro Ala Ile Pro Ser Pro Lys Leu Ser Thr Gln Lys Asp
245 250 255
Ser His Asn Asn Ser Thr Val Asn Asn Asn Ile Pro Ile Pro Pro Val
260 265 270
Val Asn Thr
275

<210> 1096
<211> 128
<212> PRT
<213> Pinus radiata

<400> 1096
Glu Phe Gly Arg Ser Ser Glu Lys Gly Arg Gly Tyr Gly Arg Gly Arg
1 5 10 15
Gly Arg Gly Gly Arg Gly Gly Tyr Gly Asn Asp Ala Gly Asp Glu Ser
20 25 30
Gln Arg Pro Arg Arg Gln Tyr Glu Arg Arg Ser Gly Thr Gly Arg Gly
35 40 45
Tyr Glu Val Lys Arg Glu Gly Ala Gly Gln Gly Asn Trp Gly Thr Pro
50 55 60
Thr Asp Gln Gly Phe Thr Glu Glu Pro Glu Glu Leu Ser Arg Ala Glu
65 70 75 80
Glu Glu Lys Thr Val Thr Pro Glu Lys Gln Glu Glu Gln Lys Pro Ser
85 90 95
Glu Glu Ser Asn Gln Glu Ile Pro Ala Pro Glu Ser Glu Glu Lys Lys
100 105 110
Glu Glu Glu Glu Asp Lys Asp Met Thr Leu Asp Glu Tyr Glu Lys Val
115 120 125

<210> 1097
<211> 135
<212> PRT
<213> Pinus radiata

<400> 1097
Ala Val Asn Ser Ser Leu Ser Val Gly Met Arg Phe Lys Met Arg Phe
1 5 10 15
Glu Gly Glu Glu Ser Pro Glu Arg Arg Phe Thr Gly Thr Ile Ile Gly
20 25 30
Met Gly Glu Val Asp Asn Val Arg Trp Pro Glu Ser Lys Trp Arg Ser
35 40 45
Leu Lys Val Gln Trp Asp Glu Thr Ser Val Val Pro Arg Pro Glu Arg
50 55 60
Val Ser Pro Trp Glu Ile Glu Thr Phe Val Ala Ser Ser Ala Ala Leu
65 70 75 80
Asn Pro Leu Pro Ala Pro Arg Thr Lys Lys Pro Arg Pro Asn Leu Val
85 90 95
Ser Ser Ser Gln Glu Leu Met Ile His Gly Ser Gly Lys Thr Ala Thr
100 105 110
Asp Ser Ser Gln Val His Arg Leu Pro Arg Val Leu Gln Gly Gln Glu
115 120 125
Met Arg Thr Phe Gly Gly Ser
130 135

```
<210> 1098
<211> 46
<212> PRT
<213> Pinus radiata

<400> 1098
Ala Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp Ile
 1               5                  10                  15
Lys Arg Gly Asn Ile Ser Pro Glu Glu Glu Glu Leu Ile Ile Arg Leu
            20                  25                  30
His Arg Leu Leu Gly Asn Arg Tyr Val Glu Asn Arg Gly Thr
        35                  40                  45

<210> 1099
<211> 113
<212> PRT
<213> Pinus radiata

<400> 1099
Met Gly Arg Ser Pro Cys Cys Ser Lys Glu Gly Leu Asn Arg Gly Ala
 1               5                  10                  15
Trp Thr Lys Arg Glu Asp Met Ile Leu Ser Glu Tyr Val Arg Ile His
            20                  25                  30
Gly Asp Gly Gly Trp Arg Asn Leu Pro Glu Lys Ala Gly Leu Lys Arg
        35                  40                  45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp
    50                  55                  60
Ile Lys Arg Gly Asn Ile Cys Pro Ala Glu Glu Glu Leu Ile Ile Arg
65                  70                  75                  80
Leu His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Leu
                85                  90                  95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Leu
            100                 105                 110
Ser


<210> 1100
<211> 148
<212> PRT
<213> Pinus radiata

<400> 1100
Pro Tyr Leu His Glu Ser Arg His Leu His Ala Met Lys Arg Ala Arg
 1               5                  10                  15
Gly Cys Gly Gly Arg Phe Leu Asn Thr Lys Lys Leu Glu Asp Ser Lys
            20                  25                  30
Ala Asn Val Asp Asn Gly Lys Thr Pro Glu Gly His Thr Ala Gln Ala
        35                  40                  45
Gly Ser Ser Ser Gly Ser Glu Val Leu Gln Ser Glu Asn Gly Asn Gly
    50                  55                  60
Asn Ser Thr Gln Glu Leu His Gly Ala Cys Gly Met Ser Gly Ser Gln
65                  70                  75                  80
Val Thr Ser Ile Ala Gln Ser Ser Glu Asn Gly Thr Thr Tyr Gln Tyr
                85                  90                  95
Ser His Thr Asn Gly Ala Tyr Leu Asn His Tyr Gln His Pro His Phe
            100                 105                 110
```

His Ile Ser Ala Phe His Pro Leu Ser Ser Gly Gly Glu Glu Gly Ser
115 120 125
Ser Ala Lys Gly Gly Ser Ile Ile Ser Gly Gly Ser Gln Gln Arg Val
130 135 140
Val Val Ile Gln
145

<210> 1101
<211> 48
<212> PRT
<213> Pinus radiata

<400> 1101
Met Gly Arg Ser Pro Cys Pro Pro Lys Glu Ala Leu Asn Arg Gly Ala
1 5 10 15
Trp Thr Gly Met Glu Asp Thr Ile Leu Thr Glu Tyr Ile Arg Val His
20 25 30
Gly Ser Gly Gly Trp Lys Ala Ile Ser Lys Arg Ala Gly Glu Cys Gln
35 40 45

<210> 1102
<211> 191
<212> PRT
<213> Pinus radiata

<400> 1102
Val Thr Arg Pro Gly Lys Phe Arg Ser Cys Gln Asp Gly Tyr Ala Val
1 5 10 15
Arg Ala Ser Leu Lys Ala Glu Asp Gly Val Leu Tyr Pro Leu Glu Lys
20 25 30
Ser Phe Phe Phe Leu Pro Lys Pro Pro Thr Leu Ile Leu His Glu Glu
35 40 45
Ile Glu Tyr Leu Glu Phe Glu Arg His Gly Ala Ala Gly Thr Ser Ser
50 55 60
Met Ser Ser His Tyr Phe Asp Leu Ile Ile Lys Leu Lys Ser Glu Gln
65 70 75 80
Glu His Gln Phe Arg Asn Ile Gln Arg Asn Glu Tyr His Asn Leu Phe
85 90 95
Ser Phe Ile Asn Thr Lys Gly Leu Lys Ile Ile Asn Leu Gly Ala Thr
100 105 110
Glu Thr Ile Gly Gly Val Ala Ala Ala Leu Gln Asn Ser Asp Asp Glu
115 120 125
Ala Val Asp Pro His Leu Glu Arg Ile Lys Ile Tyr Val Met Val Glu
130 135 140
Leu Val Leu Lys Thr Ala Thr Lys Arg Met Lys Thr Leu Leu Gln Lys
145 150 155 160
Thr Met Met Leu Asp Leu Gln Gln Met Ser Gln Lys Lys Arg Asp Gln
165 170 175
Met Gln Val Arg Val Gln Arg Ser Ser Asn Leu Gln Arg Lys Lys
180 185 190

<210> 1103
<211> 106
<212> PRT
<213> Pinus radiata

<400> 1103

Met Ser Pro Pro Pro Ser Tyr Ser Met Phe Pro Asn Ser Gly Met Gly
1   5   10   15
Leu Asn Pro Ser Val Thr Ser Ser Glu Pro Ser Ser Gln Val Ser Gly
            20   25   30
Ser Ile Pro His Gln Tyr Ser Gly Ser Glu Glu Asp Pro Lys Leu Thr
        35   40   45
Ile Asp Glu Arg Lys Gln Lys Arg Met Leu Ser Asn Arg Glu Ser Ala
    50   55   60
Arg Arg Ser Arg Met Arg Lys Gln Gln His Leu Asp Glu Leu Arg Ala
65   70   75   80
Arg Thr Ala His Leu Arg Ala Glu Asn Ser His Met Leu Thr Lys Phe
                85   90   95
Asn Ile Ala Ser Gln Lys Tyr Met Gln Leu
            100   105

<210> 1104
<211> 162
<212> PRT
<213> Pinus radiata

<400> 1104
Arg Gly Gln Pro Arg Arg His Leu Leu Thr Thr Gly Trp Ser Val Phe
1   5   10   15
Val Ser Ala Lys Arg Leu Val Ala Gly Asp Ala Phe Ile Phe Leu Arg
            20   25   30
Gly Glu Asn Ser Glu Leu Arg Val Gly Val Arg Arg Val Met Arg Gln
        35   40   45
Gln Ser Asn Met Pro Ser Ser Val Ile Ser Ser His Ser Met His Leu
    50   55   60
Gly Val Ile Ala Thr Ala Ser His Ala Val Thr Thr Arg Thr Met Phe
65   70   75   80
Thr Val Tyr Tyr Lys Pro Arg Thr Ser Gln Ser Glu Phe Ile Ile Pro
                85   90   95
Tyr Asp Lys Tyr Met Glu Ala Val Asn Ser Asn Leu Ser Val Gly Met
            100   105   110
Arg Phe Lys Met Arg Phe Glu Gly Glu Glu Ala Pro Glu Arg Arg Phe
        115   120   125
Thr Gly Thr Ile Ile Gly Ile Gly Asp Val Asp Pro Ser Arg Trp Pro
    130   135   140
Ser Ser Lys Trp Arg Ser Leu Lys Val Gln Trp Asp Glu Thr Cys Ala
145   150   155   160
Ile Pro

<210> 1105
<211> 115
<212> PRT
<213> Pinus radiata

<400> 1105
Met Ala Gln Ser Glu Glu Gln Pro Asn Glu Ala Thr Val Pro Arg Pro
1   5   10   15
Ala Asp Ser His Arg Ser Ile Pro Thr Pro Phe Leu Met Lys Thr Tyr
            20   25   30
Arg Leu Val Asp Asp Pro Ser Leu Asn Asp Ile Ile Ser Trp Asn Glu
        35   40   45
Asp Gly Thr Thr Phe Ile Val Trp Arg Pro Ala Glu Phe Ala Arg Asp

50 55 60
Leu Leu Pro Asn Tyr Phe Lys His Asn Asn Phe Ser Ser Phe Val Arg
65 70 75 80
Gln Leu Asn Thr Tyr Gly Phe Arg Lys Ile Val Pro Asp Arg Trp Glu
85 90 95
Phe Ala Asn Glu Phe Phe Arg Arg Gly Glu Lys Lys Leu Leu Cys Glu
100 105 110
Ile His Arg
115

<210> 1106
<211> 37
<212> PRT
<213> Pinus radiata

<400> 1106
Met Gly Arg Ala Pro Cys Cys Thr Lys Val Gly Leu Asn Lys Gly Ala
1 5 10 15
Trp Ser Ala Glu Glu Asp Ser Leu Leu Gly Arg Tyr Ile Gln Thr His
20 25 30
Gly Glu Gly Asn Trp
35

<210> 1107
<211> 187
<212> PRT
<213> Pinus radiata

<400> 1107
Thr Arg Ser Gly Ser Lys Asn Ser Ala Arg Ala Pro Val Ser Gly Phe
1 5 10 15
Ser Met Asn Ser Asn Met Gly Val Ser Gly Gly Leu Asp Glu Ser Gly
20 25 30
Phe Ser Gln Pro Pro Pro Asn Phe Ala Lys Met Asn Ala Pro Thr Arg
35 40 45
Thr Phe Thr Lys Val Tyr Lys Leu Gly Ser Val Gly Arg Ser Val Asp
50 55 60
Val Thr Arg Phe Arg Gly Tyr Pro Asp Leu Arg Ala Glu Leu Asp Arg
65 70 75 80
Met Phe Gly Leu Glu Gly Gln Leu Glu Asn Pro Arg Ser Ser Trp Gln
85 90 95
Leu Val Phe Val Asp Lys Glu Lys Asp Val Leu Leu Leu Gly Asp Asp
100 105 110
Pro Trp Glu Glu Phe Val Asn Asn Val Arg Phe Ile Lys Ile Leu Ser
115 120 125
Pro Pro Glu Val Gln Gln Met Ser Gln Glu Asp Met Glu Phe Trp Ser
130 135 140
Ser Ile Pro Thr Gln Gln Gln Thr Ser Ser Ser Ser Asp Asp Cys Val
145 150 155 160
Ala Arg Asn Ser Ser Arg Asn Ile Arg Ser Val Leu Thr Ser Pro Gly
165 170 175
Ser Leu Asp Val Leu Ser Val Asp Pro Ile Val
180 185

<210> 1108
<211> 130
<212> PRT

<213> Pinus radiata

<400> 1108
His Asp Asn Glu Trp Lys Phe Arg His Ile Tyr Arg Gly Gln Pro Lys
1 5 10 15
Arg His Leu Leu Thr Thr Gly Trp Ser Val Phe Val Ser Ala Lys Arg
20 25 30
Leu Ser Ala Gly Asp Ala Val Leu Phe Ile Arg Asn Glu Lys Gly Gln
35 40 45
Leu Leu Leu Gly Ile Arg Arg Ala Asn Arg Ser Gln Thr Val Met Pro
50 55 60
Ser Ser Val Leu Ser Ser Asp Ser Met His Ile Gly Val Leu Ala Ala
65 70 75 80
Ala Ala His Ala Ala Ser Thr Asn Cys Arg Phe Thr Ile Phe Tyr Asn
85 90 95
Pro Arg Ala Ser Pro Ser Glu Phe Val Ile Pro Leu Ser Lys Tyr Glu
100 105 110
Lys Ala Val Tyr His Thr Arg Val Ser Ile Gly Met Arg Phe Arg Met
115 120 125
Leu Phe
130

<210> 1109
<211> 81
<212> PRT
<213> Pinus radiata

<400> 1109
Met Gly Arg Thr Pro Cys Cys Glu Lys Gly His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Ala His Ile Arg Ala His
20 25 30
Gly Glu Gly Arg Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Met Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro His
50 55 60
Leu Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Glu Phe Ile Ile Lys
65 70 75 80
Leu

<210> 1110
<211> 146
<212> PRT
<213> Pinus radiata

<400> 1110
Met Gly Arg Ala Pro Cys Trp Asp Lys Met Gly Val Lys Lys Gly Ala
1 5 10 15
Trp Thr Leu Asp Glu Asp Lys Ile Leu Val Asp Tyr Ile Thr Lys His
20 25 30
Gly His Gly Asn Trp Arg Ala Leu Pro Lys Gln Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Lys Pro Asp
50 55 60
Ile Lys Arg Gly Asn Phe Ser Pro Glu Glu Glu Asp Gln Ile Ile Lys
65 70 75 80

Leu His Glu Leu Ile Gly Asn Arg Trp Ser Thr Ile Ala Ser Tyr Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Val Trp Asn Thr His Leu
100 105 110
Lys Lys Arg Leu Ala Arg Met Lys Ala Asp Ser Val Ala Val Asp Ala
115 120 125
Gln Pro Thr Pro Ala Ser Ser Leu Ala Ser Ser Thr Thr Glu Met Thr
130 135 140
Cys His
145

<210> 1111
<211> 72
<212> PRT
<213> Pinus radiata

<400> 1111
Cys Ile Glu Ala Asn Gly Gly Gly Ala Pro Gly Arg Ser Leu Pro Lys
1 5 10 15
Ala Ala Gly Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile
20 25 30
Asn Tyr Leu Arg Pro Asp Asp Val Lys Arg Gly Asn Phe Thr Glu Glu
35 40 45
Glu Asp Asp Leu Ile Ile Lys Leu His Ser Leu Leu Gly Asn Lys Trp
50 55 60
Ser Leu Ile Ala Gly Arg Leu Pro
65 70

<210> 1112
<211> 112
<212> PRT
<213> Pinus radiata

<400> 1112
Met Arg Arg Leu Arg Cys Glu Lys Gly Asn Thr Asn Lys Gly Ala Trp
1 5 10 15
Thr Gln Gln Glu Asp Ala Arg Leu Ile Ala Tyr Ile Arg Ala His Gly
20 25 30
Glu Gly Gly Trp His Ser Leu Pro Arg Ala Ala Gly Leu Leu Arg Cys
35 40 45
Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asn Leu
50 55 60
Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Asp Leu Ile Ile Lys Leu
65 70 75 80
His Asn Leu Leu Gly Asp Lys Trp Ser Leu Ile Ala Gly Arg Leu Pro
85 90 95
Gly Arg Met Glu Asp Gln Ile Lys Asn Tyr Trp Asp Thr His Phe Lys
100 105 110

<210> 1113
<211> 148
<212> PRT
<213> Pinus radiata

<400> 1113
Gly Lys Glu Val His Ile Ala Glu Pro Asp Gln Val Ser Asp Pro Pro
1 5 10 15

Lys Ala Ile Lys Tyr Glu Pro Pro Ala Val Ser Cys Asp Gln Glu Lys
            20   25   30
Pro Leu Gln Lys Leu Ser Lys Glu Thr Gln Val Lys Gln His Gly Asn
        35   40   45
Pro Thr Arg Ser Cys Thr Lys Val His Lys Gln Gly Ile Ala Leu Gly
    50   55   60
Arg Ala Val Asp Leu Thr Lys Phe Glu Gly Tyr Glu Glu Leu Ile Cys
65   70   75   80
Glu Leu Glu Arg Met Phe Asn Ile Glu Gly Glu Leu Arg Asn Pro Ser
                85   90   95
Lys Gly Trp Gln Val Val Tyr Thr Asp Asn Glu Gly Asp Met Met Leu
            100   105   110
Val Gly Asp Asp Pro Trp Gln Glu Phe Cys Ser Ile Val Arg Lys Ile
        115   120   125
Phe Ile Tyr Thr Arg Glu Glu Val Glu Lys Met Thr Pro Gln Lys His
    130   135   140
Ala Lys Leu Gln
145

<210> 1114
<211> 273
<212> PRT
<213> Pinus radiata

<400> 1114
Glu Thr Gln Ser Ser Asp Asn Asn Tyr Met Val Gly Phe Val Leu Ala
1   5   10   15
Asn Val Val Gly Leu Gln Tyr Tyr Thr Gly Thr Ile Asn Gly Arg Glu
            20   25   30
Met Ile Arg Leu Val Arg Glu Pro Glu Asn Arg Tyr Asp Pro Asn Ala
        35   40   45
Ile Lys Val Leu Asn Met Ser Gly Gln Gln Val Gly His Ile Glu Arg
    50   55   60
Ala Val Ala Leu Ala Leu Ala Ser His Val Asp Gln Ser Leu Ile Leu
65   70   75   80
Ile Glu Gly Ile Val Ser Arg Ala Leu His Lys Gly Ala Tyr Lys Leu
                85   90   95
Pro Cys Gln Ile Tyr Ile Phe Ser His Arg Asp Ser Met Gly Met Val
            100   105   110
Leu Gln Leu Leu Lys Gly Ala Gly Leu Asn Val Ile Thr Ala Glu Asp
        115   120   125
Gln Glu Phe Leu Thr Ala Glu Ser Ile Ala Ala Lys Glu Ile Tyr Glu
    130   135   140
Asp Pro Gly Val Lys Glu Val Arg Arg Val Asp Asp Ile Phe Gly Ser
145   150   155   160
Leu Asn Asn Pro Lys Lys Arg Gln Ser Met Glu Ala Cys Glu Leu Val
                165   170   175
Thr Ser Thr Leu Leu Gln His Gln Lys Glu Ala Leu Ala Trp Met Val
            180   185   190
Gln Arg Glu Asn Ser Ser Glu Leu Pro Pro Phe Trp Asp Val Cys Asp
        195   200   205
Lys Thr Ser Lys Ser Gln Gln Leu Arg Tyr Lys Asn Val Leu Thr Asn
    210   215   220
Phe Glu Thr Asn Gly Arg Pro Lys Pro Leu Arg Gly Gly Ile Leu Ala
225   230   235   240
Asp Asp Met Gly Leu Gly Lys Thr Leu Ser Leu Leu Ser Leu Ile Ala
                245   250   255

Thr Asn Arg Pro Gly Ala Lys Leu Pro Pro Val Val Asp Ile Ala Pro
260 265 270
Ser

<210> 1115
<211> 129
<212> PRT
<213> Pinus radiata

<400> 1115
Leu Ile Pro Gln His Asn Ala Phe Ser Leu Glu Leu Arg Phe Ser Asp
1 5 10 15
Arg Gln Leu Pro Ser Ser Thr Pro Pro Asn Cys Asp Ser Met Phe Pro
20 25 30
Ser His Tyr Thr Ala Leu Ala Leu Arg Arg Gln Met Trp Arg Asn Pro
35 40 45
Arg Glu Ser Gly Gln Ser His Ser Gln Pro Pro Glu Lys Asp Arg Gly
50 55 60
Lys Thr Phe Gly Gln Phe Lys Gly Ile Arg Met Arg Lys Trp Gly Lys
65 70 75 80
Trp Val Ser Glu Ile Arg Met Pro Arg Ser Lys Glu Arg Ile Trp Leu
85 90 95
Gly Ser Tyr Lys Thr Val Glu Gln Ala Ala Arg Ala Tyr Asp Ala Ala
100 105 110
Leu Tyr Cys Leu Arg Gly Pro Asn Ala Lys Phe Asn Phe Pro Asn Ser
115 120 125
Val

<210> 1116
<211> 90
<212> PRT
<213> Pinus radiata

<400> 1116
Met Asp Arg Glu Lys Leu Met Lys Met Ala Gly Ala Val Arg Thr Gly
1 5 10 15
Gly Lys Gly Thr Met Arg Arg Lys Lys Lys Thr Ile His Lys Thr Ala
20 25 30
Thr Ala Asp Asp Lys Arg Leu Gln Ser Thr Leu Lys Arg Ile Gly Val
35 40 45
Asn Asn Ile Pro Ala Ile Glu Glu Val Asn Ile Phe Lys Asp Asp His
50 55 60
Val Ile His Phe Ala Asn Pro Lys Val Gln Ala Ser Ile Ala Ala Asn
65 70 75 80
Thr Trp Val Gly Ser Gly His Arg Lys Gln
85 90

<210> 1117
<211> 33
<212> PRT
<213> Pinus radiata

<400> 1117
Gly Lys Thr Gln Met Lys Leu Lys Arg Glu Arg Asp Gln Gln Ala Arg
1 5 10 15

Asp Ala Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu
20 25 30
Ser

<210> 1118
<211> 107
<212> PRT
<213> Pinus radiata

<400> 1118
Met Gly Arg Ala Pro Cys Cys Ala Asn Gly Asp Arg Ser Lys Gly Ala
1 5 10 15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Thr Gln Tyr Ile Gln Ala His
20 25 30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Gly Phe Ser Glu Asp Glu Asp Asp Leu Ile Leu Lys
65 70 75 80
Leu His Ala Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
85 90 95
Pro Gly Arg Thr Gly His Gln Asn Gln Asn Tyr
100 105

<210> 1119
<211> 112
<212> PRT
<213> Pinus radiata

<400> 1119
Arg Lys Ser Asn Val His Ser Phe Cys Lys Thr Leu Thr Ala Ser Asp
1 5 10 15
Thr Ser Thr His Gly Gly Phe Ser Val Leu Arg Arg His Ala Asp Glu
20 25 30
Cys Leu Pro Pro Leu Asp Met Ser Gln Gln Pro Pro Ser Gln Glu Leu
35 40 45
Val Ala Arg Asp Leu His Gly Met Glu Trp Arg Phe Arg His Ile Phe
50 55 60
Arg Gly Gln Pro Arg Arg His Leu Leu Thr Thr Gly Trp Ser Val Phe
65 70 75 80
Val Ser Ser Lys Arg Leu Val Ala Gly Asp Ala Phe Ile Phe Leu Arg
85 90 95
Gly Glu Ser Gly Glu Leu Arg Val Gly Val Arg Arg Ala Met Arg Gln
100 105 110

<210> 1120
<211> 156
<212> PRT
<213> Pinus radiata

<400> 1120
Ala Leu Arg Glu Ala Ile Lys Asn Gly Ala Cys Pro Asn Cys Gly Gly
1 5 10 15
Ser Thr Ser Leu Gly Glu Met Pro Gly Phe Asp Glu His His Phe Arg
20 25 30

Ile Glu Asn Thr Arg Leu Lys Glu Glu Leu Asp Arg Val Ser Gly Ile
35 40 45
Ala Thr Lys Tyr Ile Gly Arg Ser Met Pro His Leu Ala Pro Ile Ala
50 55 60
Thr Pro Pro Met Leu Met Ser Ser Leu Glu Leu Ala Met Gly Ser Phe
65 70 75 80
Gly Gly Lys Gln Ser Gln Pro Ala Ala Pro Ser Val Asp Phe Ile Ser
85 90 95
Gly Pro Leu Ala Asp Gly Pro Ile Ile Asn Cys Gly Thr Leu Thr Asp
100 105 110
Leu Asp Lys Pro Leu Ala Leu Glu Leu Ala Met Asn Gly Val Glu Glu
115 120 125
Leu Ile Arg Met Ala Gln Thr Asp Glu Pro Leu Trp Leu Lys Asp Val
130 135 140
Asn Ala Gly Ser Val Lys Glu Leu Phe Glu Leu Gly
145 150 155

<210> 1121
<211> 116
<212> PRT
<213> Pinus radiata

<400> 1121
Gly Phe Phe Ile Phe Met Cys Arg Leu Pro Gly Arg Thr Leu Ala Asn
1 5 10 15
Gly Arg Leu Ile Trp Leu Cys Gln Ala Asn Glu Ala Asp Ser Lys Val
20 25 30
Phe Pro Arg Ala Leu Leu Ala Lys Ser Ala Ser Ile Gln Thr Val Val
35 40 45
Cys Ile Pro Leu Ala Asp Gly Val Leu Glu Phe Gly Thr Thr Glu Val
50 55 60
Glu Arg Glu Asp Pro Gly Leu Val Gln Arg Thr Ile Ser Phe Phe Leu
65 70 75 80
Glu Tyr Pro Lys Pro Ile Cys Ser Glu Gln Ser Thr Ser Ser Pro Gln
85 90 95
Cys Ser Asp Arg Asp Glu Lys Asp Gln Val Gly Met Val Thr Ile Met
100 105 110
Ser Ser Asp Ser
115

<210> 1122
<211> 104
<212> PRT
<213> Pinus radiata

<400> 1122
Phe Leu Phe Asp Ser Leu Asp Ala Val Asn Ile Asn Met Glu Ala Val
1 5 10 15
His Lys Ile Glu Lys Phe Leu Leu Ala Pro Lys Ile Asp Ala Thr Ile
20 25 30
Ser Ser Ala Ala Ala Pro Pro Trp Lys Thr Leu Phe Ala Ala Ala Gly
35 40 45
Phe Ser Pro Val Ala Phe Ser Asn Phe Thr Glu Thr Gln Ala Glu Tyr
50 55 60
Leu Ile Gln Arg Leu His Ser Arg Gly Phe Glu Val Glu Lys Ala His
65 70 75 80
Ala Ala Leu Leu Leu Gly Trp Gln Gly Arg Pro Leu Val Ser Ala Thr

85 90 95
Ala Trp Arg Cys Gly Pro Pro Pro
100

<210> 1123
<211> 169
<212> PRT
<213> Pinus radiata

<400> 1123
Glu Glu Lys Gln Leu Ser Ile Ser Gly Arg Asn Trp Gly Glu Val Asn
1 5 10 15
Leu Glu Gly Asn Met Leu Thr Phe Leu Val Gly Ser Lys Pro Ala Phe
20 25 30
Glu Val Ser Leu Ala Asp Val Ser Gln Thr Gln Leu Gln Gly Lys Asn
35 40 45
Asp Val Val Leu Glu Phe His Val Asp Asp Thr Thr Gly Ala Asn Glu
50 55 60
Lys Asp Ser Leu Met Glu Leu Ser Phe His Ile Pro Asn Ser Asn Thr
65 70 75 80
Thr Phe Ala Gly Asp Glu Ala Ser Pro Pro Ala Gln Ile Phe Arg Glu
85 90 95
Lys Ile Met Ser Met Ala Asp Val Gly Ser Ser Gly Gly Glu Ala Val
100 105 110
Ala Leu Phe Glu Asp Ile Ala Ile Leu Thr Pro Arg Gly Arg Tyr Thr
115 120 125
Ile Glu Leu His Leu Ser Phe Met Arg Leu Gln Gly Gln Ala Ser Asp
130 135 140
Phe Lys Ile Gln Tyr Ser Ser Val Leu Arg Leu Phe Val Leu Pro Lys
145 150 155 160
Ser Pro His Thr Leu Val Val Ile Thr
165

<210> 1124
<211> 124
<212> PRT
<213> Pinus radiata

<400> 1124
Leu Gly His Ser Gln Asn Phe Ser Thr Asp Val Asn Arg Met Pro Asp
1 5 10 15
Val Pro Pro Arg Arg Gly Gly His Arg Arg Ala Gln Ser Glu Ile Ala
20 25 30
Phe Arg Leu Pro Asp Asp Ile Met Phe Asp Gly Asp Leu Gly Phe Ala
35 40 45
Gly Phe Asp Met Pro Thr Val Ser Asp Asp Ala Thr Glu Ala Glu Asp
50 55 60
Leu Ile Ser Met Tyr Met Asp Met Glu Lys Leu Thr Ser Phe Gly Glu
65 70 75 80
Pro Leu Asn Ser Ala Ala Gly Glu Gly Ser Lys Leu Pro Ser Gly Ala
85 90 95
Glu Thr Asn Arg Pro Pro His His Ser Arg Ser Leu Ser Val Asp Ala
100 105 110
Val Phe Ser Gly Phe Glu Gly Asn Met Glu Asp Thr
115 120

<210> 1125

<211> 70
<212> PRT
<213> Pinus radiata

<400> 1125
Met Asp Arg Ser Ser Ser Glu Asp Ser Val Asp Ser Gln Gly Asp Val
1   5   10   15
Asn Ala Asn Tyr Lys Met Val Phe Ser Glu Asp Glu Lys Asp Leu Ile
            20   25   30
Ser Arg Leu Tyr Asn Leu Leu Gly Gln Arg Trp Ala Leu Ile Ala Gly
        35   40   45
Arg Ile Pro Gly Arg Thr Ala Glu Glu Ile Glu Lys Tyr Cys Ser Arg
    50   55   60
Arg Tyr Ile Ser Glu Tyr
65   70

<210> 1126
<211> 120
<212> PRT
<213> Pinus radiata

<400> 1126
Gly Gly Glu Ile Arg Ile Leu Arg Gly Phe Phe Val Asn Gln Lys Thr
1   5   10   15
Asp Gly Gln Gly Ser Ser Phe Ala Ala Ser Ser Ser Arg Asn Ser Ser
            20   25   30
Phe Ser Asn Gly Tyr Asp Asn Pro Gln Asn Thr Asn Lys Asn Ser Ser
        35   40   45
Ser Gly Gly Thr Gly Asp Ala Gly Ser Phe Glu Cys Asn Ile Cys Leu
    50   55   60
Glu Leu Ala Gln Asp Pro Ile Val Thr Leu Cys Gly His Leu Phe Cys
65   70   75   80
Trp Pro Cys Leu Tyr Lys Trp Leu His Gly His Ser Lys Ser Gln Glu
                85   90   95
Cys Pro Val Cys Lys Ala Leu Val Glu Glu Asp Lys Ile Val Pro Leu
            100   105   110
Tyr Gly Arg Gly Lys Val Gly Ser
        115   120

<210> 1127
<211> 233
<212> PRT
<213> Pinus radiata

<400> 1127
Met Gly Ala Pro Lys Gln Lys Trp Thr Ser Glu Glu Glu Gly Ala Leu
1   5   10   15
Lys Ala Gly Val Glu Lys Tyr Gly Thr Gly Lys Trp Arg Thr Ile Gln
            20   25   30
Lys Asp Pro Glu Phe Gly His Cys Leu Ala Ala Arg Ser Asn Val Asp
        35   40   45
Leu Lys Asp Lys Trp Arg Asn Met Ser Val Ser Ala Ser Gly Gln Gly
    50   55   60
Ser Arg Asp Lys Val Lys Thr Pro Arg Val Lys Ala Ile Ala Ser Leu
65   70   75   80
Pro Tyr Ser Ser Val Thr Ala Glu Ser Thr Ser Val Phe Ser Ile Glu
                85   90   95

Ala Thr Thr Ser Thr Thr Pro Asp Asn Leu Ile Ser Pro Lys Ser Ser
100 105 110
Ser Asn Gly Lys Ile His Ser Pro Arg Tyr Asp Gly Met Ile Leu Glu
115 120 125
Ala Leu Thr Ser Met Gln Asp Pro Asn Gly Ile Asp Ile Ala Thr Ile
130 135 140
Ala Ser Phe Met Glu Glu Arg His Glu Leu Pro Pro Asn Phe Lys Arg
145 150 155 160
Ala Leu Gly Thr Lys Leu Arg Arg Leu Val Ala Gln Glu Lys Val Ile
165 170 175
Lys Ile Arg Asn Ser Tyr Lys Leu Lys Asp Met Thr Ser Thr Glu Val
180 185 190
Thr Ser Glu Val Leu Gly Ser Ala Ile Pro Ile Asp Asn Ser Met Gln
195 200 205
Tyr Ser Asn Ala Phe Thr Asn Thr Ile Asp Thr Phe Ser Val Asp Arg
210 215 220
Val Asn Glu Ala Ser Met Ala Ala Ala
225 230

<210> 1128
<211> 144
<212> PRT
<213> Pinus radiata

<400> 1128
His Ser Arg Pro Leu Ile Lys Glu Glu Ala Glu Ser Gly Asp Asn Ser
1 5 10 15
Ala Asn Ser Ala Asp Val Glu Thr Leu Leu Pro Gln Val Asp Glu Thr
20 25 30
Ala Ser Ala Asp Leu Thr Val Phe Pro Gly Phe Val Thr Pro Tyr Val
35 40 45
Pro Tyr Gly Phe Pro Ile Trp His Thr Phe Arg Pro Thr Ile Thr Gln
50 55 60
Thr Ser Asn Val Tyr Lys Pro Thr Ala Val Met Pro Thr Ala Pro Ile
65 70 75 80
Lys Met Asp Glu Cys Thr Gly Leu Ser Gln Leu Ser Leu Gly Gly Val
85 90 95
Ala Ala Ala Ser Ala Met Lys Pro Ser Glu Leu Ser Leu Lys Leu His
100 105 110
Gly Arg Pro Pro Ser Arg Gln Ser Ala Phe Gln Ala Lys Pro Ser Leu
115 120 125
Asn Glu Ser Ser Ser Leu Ser Ser Ser Ser Asn Val Ile Ser Val Val
130 135 140

<210> 1129
<211> 187
<212> PRT
<213> Pinus radiata

<400> 1129
His Pro Tyr Met Trp Gly Gly Gln Pro Leu Met Pro Pro Tyr Gly Thr
1 5 10 15
Pro Leu Pro Tyr Pro Ala Met Tyr Pro His Gly Gly Ile Tyr Ala His
20 25 30
Pro Ser Met Pro Pro Gly Ala Leu Pro Tyr Gly His Tyr Gly Met Pro
35 40 45
Ser Pro Gly Asn Ala Glu Val Thr Thr Thr Leu Ala Leu Pro Asn Ala

50 55 60
Glu Ala Glu Ala Lys Ser Ser Glu Gly Lys Glu Arg Asn Thr Met Lys
65 70 75 80
Arg Ser Lys Gly Ser Leu Gly Ser Leu Gly Met Ile Thr Gly Lys Gly
85 90 95
Gly Glu Gly Gly Lys Ala Thr Ser Gly Ser Ala Asn Glu Ala Met Ser
100 105 110
Gln Ser Gly Asp Ser Gly Ser Asp Gly Ser Ser Glu Gly Ser Glu Glu
115 120 125
Tyr Asn Thr Gln Thr Glu Ser Gln Val Ala Arg Lys Arg Ser Phe Asp
130 135 140
Gln Met Ile Val Asp Gly Ala Asn Ala Gln Ser Thr Asn Ile Gln Ser
145 150 155 160
Tyr Asn Ser Gln Ala Gly Glu Pro Tyr Val Thr Ser Gly Gly His Ala
165 170 175
Met Gly Asn Pro Ile Ser Gln Ala Val Ala Ala
180 185

<210> 1130
<211> 80
<212> PRT
<213> Pinus radiata

<400> 1130
Gly Lys Val Thr Ala Ser Gly Lys Val Thr Ser Gly Val Asn Asp Leu
1 5 10 15
Phe Trp Glu Gln Phe Leu Thr Glu Thr Pro Gly Ser Ala Thr Asp Thr
20 25 30
Gln Glu Ala Glu Ser Lys Ile Gln Glu Thr Arg Thr Lys Asp Gln Asp
35 40 45
Glu Arg Leu Pro Glu Asn Gly Lys Cys Trp Ser Asn Lys Gln Thr Leu
50 55 60
Asp Gln Leu Thr Glu Gln Met Gly Gln Leu Ala Ser Gly Thr Gln Thr
65 70 75 80

<210> 1131
<211> 96
<212> PRT
<213> Pinus radiata

<400> 1131
Met Asn Met Asp Ser Arg Gln Ser Gly Glu Glu Glu Asp Cys Asn Val
1 5 10 15
Thr Arg Pro Gly Gly Gly Gly Gly Ile Ser Leu His Val Ser Ser Val
20 25 30
Glu Tyr Cys Gln Lys Ser Ala Cys Val Ala His Asp Ile Ser Ser Asp
35 40 45
Glu Gln Asp Leu Ile Asn Arg Leu His Asn Leu Leu Gly Asp Arg Trp
50 55 60
Ala Leu Ile Ala Gly Arg Leu Pro Trp Arg Arg Arg Glu Glu Ile Glu
65 70 75 80
Asn Tyr Cys Lys Met Arg Tyr Thr Ala Thr Thr Ser Ser Ser Arg Ser
85 90 95

<210> 1132
<211> 193
<212> PRT

<213> Pinus radiata

<400> 1132
Glu Arg Glu Arg Gly Arg Lys Pro Ala Asn Gly Arg Glu Glu Pro Leu
1 5 10 15
Asn His Val Glu Ala Glu Arg Gln Arg Arg Glu Lys Leu Asn Gln Lys
20 25 30
Phe Tyr Glu Leu Arg Ala Val Val Pro Asn Val Ser Lys Met Asp Lys
35 40 45
Ala Ser Leu Leu Gly Asp Ala Ala Ala Tyr Ile Lys Asp Leu Phe Ser
50 55 60
Lys Gln Gln Asp Leu Glu Ser Glu Arg Val Asp Met Gln Val Gln Ile
65 70 75 80
Asp Thr Ile Lys Lys Glu Leu Leu Met Asn Ser Leu Lys Leu Ala Ala
85 90 95
Lys Glu Ala Lys Asp Leu Ser Ser Ile Asp Leu Lys Gly Phe Ser Gln
100 105 110
Gly Lys Phe Pro Gly Leu Asn Ser Glu Val Arg Ile Val Gly Arg Glu
115 120 125
Ala Ile Ile Arg Ile Gln Cys Thr Lys His Asn His Pro Val Ala Arg
130 135 140
Leu Met Ile Ala Leu Gln Glu Leu Asp Leu Glu Val Leu His Ala Ser
145 150 155 160
Ile Ser Thr Val Lys Asp Ser Leu Ile Ile Gln Thr Val Ile Val Lys
165 170 175
Met Thr Arg Gly Leu Tyr Thr Glu Asp Gln Leu His Ala Leu Leu Cys
180 185 190
Lys

<210> 1133
<211> 88
<212> PRT
<213> Pinus radiata

<400> 1133
Met Ala Tyr Asn Arg Lys His Ala Ala Ala Ala Thr Ser Pro Asp Ser
1 5 10 15
Ser Leu Gly Ser Asp Asn Glu Ser Gly Gly Gly Gly Gly Gly Gly Gly
20 25 30
Gly Lys Gly Gln Ser Thr Lys Asn Gly Asn Gly Asn Tyr Ile Arg Glu
35 40 45
Gln Asp Arg Leu Leu Pro Ile Ala Asn Val Gly Arg Ile Met Lys Arg
50 55 60
Ala Leu Pro Gly Asn Ala Lys Ile Ser Lys Asp Ala Lys Glu Thr Val
65 70 75 80
Gln Glu Cys Val Ser Glu Phe Ile
85

<210> 1134
<211> 141
<212> PRT
<213> Pinus radiata

<400> 1134
Met Ala Thr Arg Asn Pro Phe Asp Leu Leu Glu Asp Asp Asp Asn Gly
1 5 10 15

Asp Pro Ser Ser Leu Leu Asp Thr Leu Ala Ala Ala Lys Asp Lys Pro
20 25 30
Ala Ala Val Ala Ala Lys Lys Gln Gln Pro Ala Val Ser Ala Ser Gly
35 40 45
Lys Leu Pro Thr Lys Pro Leu Pro Pro Ala Gln Ala Val Lys Glu Ser
50 55 60
Arg Val Ser Pro Asn Glu Gly Gly Arg Gly Arg Gly Gly Gly Arg Gly
65 70 75 80
Gly Arg Gly Phe Gly Asn Arg Glu Ser Gln Glu Phe Gly Arg Gly Arg
85 90 95
Gly Gly Gly Tyr Asn Val Glu Arg Asn Phe Asn Arg Glu Asn Asn Ala
100 105 110
Tyr Ser Gly Ser Arg Val Gly Phe Tyr Asp Asn Asn Ser Asp Leu Ile
115 120 125
Pro Ser Arg Asn Glu Asp Gly Asp Gly Ala Ser Asn Asp
130 135 140

<210> 1135
<211> 43
<212> PRT
<213> Pinus radiata

<400> 1135
Met Pro Arg Val Lys Leu Ile Ser Arg Asn Phe Met Asp Met Val Ala
1 5 10 15
Ala Leu Pro Ala Ala Lys Leu Asp Arg Leu Tyr Asp Lys Ser Leu His
20 25 30
Leu Arg Ser Gly Leu Arg Ser Leu Thr Pro Val
35 40

<210> 1136
<211> 48
<212> PRT
<213> Pinus radiata

<400> 1136
Met Ala Glu Glu Met Asp Thr Pro Thr Lys Thr Thr Lys Thr Pro Thr
1 5 10 15
Ser Gln Glu Gln Thr Ser Thr Ser Thr Pro Val Ala Tyr Pro Glu Trp
20 25 30
Ala Ala Pro Ile Gln Ala Leu Tyr Asn Ser Gly Lys Thr Pro Leu Pro
35 40 45

<210> 1137
<211> 190
<212> PRT
<213> Pinus radiata

<400> 1137
Ser Phe Ser Ser Thr Arg Glu Ser Met Glu Arg Arg Asp Gln Ser Pro
1 5 10 15
Val Ala Ala Arg His Pro Met Arg Lys His Tyr Arg Gly Val Arg Gln
20 25 30
Arg Gln Trp Gly Lys Trp Val Ala Glu Ile Arg Leu Pro Gln Asn Arg
35 40 45
Thr Arg Leu Trp Leu Gly Thr Phe Asp Thr Ala Glu Ala Ala Ala Leu
50 55 60

Ala Tyr Asp Arg Ala Ala Tyr Arg Trp Arg Gly Glu Cys Ala Arg Leu
65 70 75 80
Asn Phe Pro His Leu Phe Ser Lys Lys Tyr Gln Asn Ser Ser Pro Ser
85 90 95
Ser Thr Asn Gly Arg Ile Pro Arg Leu Ser Cys Glu Lys Ser Asp Gln
100 105 110
Lys Tyr Ala Tyr Asn Gly Asp Pro Val His Thr Asn Val Tyr Lys Gly
115 120 125
Pro Pro Ile Arg Ile Thr Ala Tyr Asn Gly Asp Pro Val Pro Ile Asp
130 135 140
Val Tyr Arg Ser Asp Pro Val Arg Val Ser Ala Tyr Thr Gly Asp Pro
145 150 155 160
Val Arg Ile Ser Ala Tyr Ser Gly Asp Pro Val Gly Asn Thr Val Thr
165 170 175
Leu Ala Glu Ser Glu Leu Glu Ser Ser Cys Ser His Glu Ser
180 185 190

<210> 1138
<211> 177
<212> PRT
<213> Pinus radiata

<400> 1138
Leu Asp Tyr Met Glu Glu Gln Asn Trp Asp Ile Asn Gly Ala Lys Tyr
1 5 10 15
Asp Gly Ser Glu Lys Trp Lys Ala His Ser Ser Glu Gln Lys Asp Leu
20 25 30
Gly Thr Ile Pro Thr Lys Val Glu Gly Arg Ile Gly Asn Arg Glu Asn
35 40 45
Ser Leu Asp Val Thr Arg Gly Gly Ala Leu Trp Asp Ile Phe Arg Arg
50 55 60
Glu Asp Ile Pro Lys Leu Gln Asp Tyr Leu Leu Lys His Cys Gln Asp
65 70 75 80
Phe Arg His Ser Arg Asn Val Ser Val Asp Ser Val Val His Pro Ile
85 90 95
His Asp Gln Thr Phe Tyr Leu Asn Glu Gly His Lys Lys Lys Leu Lys
100 105 110
Glu Glu Tyr Gln Val Glu Pro Trp Thr Phe Glu Gln His Leu Gly Glu
115 120 125
Ala Val Phe Ile Pro Ala Gly Cys Pro His Gln Val Arg Asn Leu Lys
130 135 140
Ser Cys Ile Lys Val Ala Leu Asn Phe Val Ser Pro Glu Asn Leu Gln
145 150 155 160
Glu Cys Ile Arg Leu Glu Asp Glu Leu Arg Leu Leu Pro Lys Asn His
165 170 175
Arg

<210> 1139
<211> 148
<212> PRT
<213> Pinus radiata

<400> 1139
Gly Pro Arg Glu Met Thr Glu Glu Glu Arg Glu Thr Lys Lys Ala Ala
1 5 10 15
Ser Val Ala Ala Thr Ala Ala Asp Gln Glu Leu Arg Lys Lys Val Leu

20 25 30
Arg Asp Leu His Ala Leu Ile Asn Pro Asn Ala Thr Gly Glu Ala Asp
35 40 45
Pro Ala Glu Phe Pro Gly Asp Asp Ala Thr Val Asp Gly Glu Val Thr
50 55 60
Asp Ala Glu Trp Phe Tyr Leu Val Ser Met Met Lys Ser Phe Gly Asn
65 70 75 80
Gly Leu Gly Val Pro Gly Gln Ala Phe Cys Gly Gly Met Pro Ile Trp
85 90 95
Ile Ile Gly Ser Glu Lys Leu Gln Ser Tyr Asn Cys Glu Arg Ala Arg
100 105 110
Gln Ala Gln Gln Phe Gly Ile Gln Thr Met Val Cys Ile Pro Thr Pro
115 120 125
Asn Gly Val Val Glu Leu Gly Ser Thr Asp Leu Asn Pro Gln Asn Trp
130 135 140
Asp Leu Ile Gln
145

<210> 1140
<211> 341
<212> PRT
<213> Pinus radiata

<400> 1140
Met Cys Gly Gly Ala Ile Ile Lys Glu Phe Ile Pro Ala Asn Arg Ser
1 5 10 15
Arg Arg Val Thr Ala Arg Glu Leu Trp Pro Asp Phe Asp Thr Phe Ala
20 25 30
Glu Phe Ile Asn Gly Gly Ala Thr Gln Glu Thr Phe Asn Lys Pro Gly
35 40 45
Lys Leu Asp Glu Gly Cys Lys Gln Lys Ser Lys Pro Ser Lys Gly Ser
50 55 60
Val Lys Thr Gln Gln Glu Phe Cys Ser Gly Phe Glu Gly Gly Arg Ser
65 70 75 80
Glu Val Ile Pro Pro Leu Glu Asp Val Glu Gly Ser Thr Pro Thr Ile
85 90 95
Gly Gly Arg Lys Arg Lys Asn Val Tyr Arg Gly Ile Arg Gln Arg Pro
100 105 110
Trp Gly Lys Trp Ala Ala Glu Ile Arg Asp Pro Ser Lys Gly Val Arg
115 120 125
Val Trp Leu Gly Thr Phe Asn Thr Ala Glu Glu Ala Ala Lys Ala Tyr
130 135 140
Asp Ala Ala Ala Lys Arg Ile Arg Gly Lys Lys Ala Lys Leu Asn Phe
145 150 155 160
Ala Asp Asn Ser Cys Ser Val Lys Asn Asp Thr Ser Lys Lys Leu Ser
165 170 175
Gly Lys Lys Gly Lys Leu Cys Ser Lys His Pro Ala Leu Leu Leu Glu
180 185 190
Gly Phe Asn Ala Ser Cys Lys Val Lys Pro Ser Tyr Ser Ala Asn Pro
195 200 205
Asp Leu Leu Gly Gly Tyr Asn Ile Asn Arg Lys Val Lys Ala Ser Leu
210 215 220
Ser Gly Val Gly Lys Ser Asp Leu Thr Ile Cys Gly Tyr Asp Asp Met
225 230 235 240
Glu Tyr Gly Asp Ser Gly Phe Ser Lys Pro Ser Ala Pro Phe Gln Asn
245 250 255
Asn Ser Asn Ala Cys Thr Val Gln Phe Ser Glu His Ser Asn Leu Thr

```
            260                 265                 270
Gln Thr Ser Gln Lys Ser Cys Ser Cys Glu Ile Cys Ser His Asn Tyr
        275                 280                 285
Ser Glu Met Ser Asn Val Met Pro Pro Ala Tyr Gly Asn Ala Val Asn
    290                 295                 300
Phe Glu Pro Val Gln Thr Ser Asn Pro Gly Gly Tyr Phe Asp Ser Asp
305                 310                 315                 320
His Ser Ser Met Ser Phe Glu Gly Ala His Phe Pro Trp Ala Gln Glu
                325                 330                 335
Ile Lys Thr Pro Glu
            340

      <210> 1141
      <211> 181
      <212> PRT
      <213> Pinus radiata

      <400> 1141
Ala Lys Thr Leu His Pro Cys Trp Asp Ala Tyr Gln Leu Glu Asp Glu
 1               5                  10                  15
Arg Ala Ser Ala Val Tyr Ile Asn Val Phe Ser Gly Asp Ala Thr Thr
            20                  25                  30
Glu Phe Pro Ser Ala Leu Gln Leu Gly Arg Gly Gly Ile Leu Ala Asp
        35                  40                  45
Ala Met Gly Leu Gly Lys Thr Val Met Thr Ile Ser Leu Leu Leu Ala
    50                  55                  60
Asn Ser Gly Lys Gly Gly Phe Ser Gly Met Asp Thr Val Glu Pro Phe
65                  70                  75                  80
Ser Ala Asn Ser Cys Ser Glu Lys Thr Ile Ile His Pro Tyr Asn Ile
                85                  90                  95
Gly Val Glu Leu Gly Pro Ser Gln Tyr Thr Asn Lys Thr Gln Gly Thr
            100                 105                 110
Ser Met Leu Arg Arg Ser Ser Ser Gly Leu His Lys Gly Gly Gly Asn
        115                 120                 125
Leu Ile Val Cys Pro Met Thr Leu Leu Ser Gln Trp Lys Thr Glu Leu
    130                 135                 140
Glu Thr His Val Gln Ser Gly Thr Met Ser Val Tyr Val His Tyr Gly
145                 150                 155                 160
Gln Ser Arg Thr Lys Asp Val Lys Ser Leu Leu Gln His Asp Val Val
                165                 170                 175
Leu Thr Thr Tyr Gly
            180

      <210> 1142
      <211> 59
      <212> PRT
      <213> Pinus radiata

      <400> 1142
Met Phe Val Gly Met Met Ser Glu Val Gly Ser Pro Thr Ser Gln Asp
 1               5                  10                  15
Ser Arg Asn Ser Glu Asp Gly Glu Arg Glu Asn Cys Ala Val Arg Glu
            20                  25                  30
Gln Asp Arg Phe Met Pro Ile Ala Asn Val Ile Arg Ile Met Arg Lys
        35                  40                  45
Val Leu Pro Thr His Ala Lys Ile Ser Asp Asp
    50                  55
```

<210> 1143
<211> 133
<212> PRT
<213> Pinus radiata

<400> 1143
Met Gly Phe Glu Gln Thr Arg Gly Gly Gly Gly Gly Ala Lys Met Thr
1 5 10 15
Gln His Gln Val Val Thr Thr Glu Leu Val Arg Gln Ala Thr Glu Arg
20 25 30
Leu Arg Lys Leu Cys Arg Thr Gly Val Lys Val Glu Leu Arg Asp Phe
35 40 45
Phe Gln Leu Cys Ile Val Leu Ala Lys Ser Ile Asp Ser Ala Val Val
50 55 60
Tyr Asn Gln Ile Pro Thr Met Val His Glu Leu Pro Gln Leu Val Arg
65 70 75 80
Gln Val Phe Glu Arg Lys Asp Asp Ile Arg Leu Gln Pro Ala Ile Met
85 90 95
Val Leu Met Leu Ser Val Lys Asn Ala Cys Arg Ser Gly Trp Phe Arg
100 105 110
Val Thr Asp Thr Asp Glu Leu Leu Thr Met Ser Lys Glu Leu Ser Ser
115 120 125
Arg Phe Thr Ser Thr
130

<210> 1144
<211> 169
<212> PRT
<213> Pinus radiata

<400> 1144
Met Thr Arg Lys Cys Ser His Cys Gly Asn Asn Gly His Asn Ser Arg
1 5 10 15
Thr Cys Pro Asn Arg Gly Gly Val Lys Leu Phe Gly Val Arg Leu Thr
20 25 30
Asp Gly Pro Ile Arg Lys Ser Ala Ser Met Gly Asn Leu Met Met Met
35 40 45
Ser Asn Pro Ser Ser Pro Ala Asp Pro Ser Glu Pro Ala Ser Ala Ala
50 55 60
Ala Ala Ala Ala Ala Ala Ala Ala Ser Gly Tyr Leu Ser Asp Gly Leu
65 70 75 80
Val Glu Ala Ser Thr Ser Ser Asn Ser Arg Glu Arg Lys Lys Gly Val
85 90 95
Pro Trp Thr Glu Glu Glu His Arg Met Phe Leu Leu Gly Leu Gln Lys
100 105 110
Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asn Phe Val Ile Thr
115 120 125
Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr Phe Ile Arg
130 135 140
Gln Ser Asn Met Thr Arg Lys Lys Arg Arg Ser Ser Leu Phe Asp Met
145 150 155 160
Thr Pro Val Ser Phe Phe Phe Leu Ser
165

<210> 1145
<211> 103

<212> PRT
<213> Pinus radiata

<400> 1145

Val Ser Ser Arg His Glu Phe Ala Val Ser Gln Met Ala Tyr Leu Gln
1 5 10 15
Ala Leu Arg Asn Ala Gly Ala Thr Leu Arg Gln Phe Ala Glu Leu Glu
20 25 30
Ser Met Glu Leu Gln Lys Thr Ser Pro Tyr Pro His Leu Arg His Tyr
35 40 45
Arg Val Thr Leu Pro Pro Ser Pro Pro Pro Leu Pro Pro Pro Pro Pro
50 55 60
Pro Pro Pro Pro Leu Ser Leu Thr Pro Ser Pro Ser Tyr Gly Ser Ala
65 70 75 80
Thr Phe Pro Ser Ser Ile Pro Val Asn Arg Ser Ile Tyr Arg Cys Pro
85 90 95
Tyr Gln Gln Cys Ser Pro Ser
100

<210> 1146
<211> 153
<212> PRT
<213> Pinus radiata

<400> 1146

Gln Leu Pro Asp Glu Ala Ile Ala Leu Ala Ala Ala Ser His Ile Glu
1 5 10 15
Arg Glu Leu Gln Ile Thr Ser Trp Asn Leu Ser Cys Asn Phe Val Ala
20 25 30
Ser Thr Leu Gln Gly Arg Glu Cys Ile Glu Arg Leu Glu Ile Thr Gly
35 40 45
Ile Gly Asp Pro Ser Gly Arg Gly Leu Gly Phe Ser Tyr Leu Arg Val
50 55 60
Ala Pro Lys Pro Pro Ile Ser Ser Ala Leu Val Lys Lys Lys Ala Ala
65 70 75 80
Ala Ala Arg Gly Gly Ser Ala Val Thr Gly Thr Asp Ala Asp Leu Arg
85 90 95
Arg Leu Ser Met Asp Ala Ala Arg Glu Val Leu Leu Lys Phe Asn Val
100 105 110
Asp Glu Glu Gln Ile Glu Lys Met Thr Arg Trp His Arg Ile Ala Met
115 120 125
Val Arg Lys Leu Ser Ser Glu Gln Ala Ala Ser Gly Val Lys Val Asp
130 135 140
Ala Thr Ala Leu Asn Lys Phe Ala Arg
145 150

<210> 1147
<211> 73
<212> PRT
<213> Pinus radiata

<400> 1147

Met Lys Ser Pro Ser Thr Ser Cys Leu Ser His Pro Val Glu Gly Glu
1 5 10 15
Gln Lys Ser Ile Asn Ser Glu Leu Trp His Ala Cys Ala Gly Pro Leu
20 25 30
Val Ser Leu Pro Ser Val Gly Ser Val Val Tyr Tyr Phe Pro Gln Gly

35 40 45
His Ser Glu Gln Val Ala Ala Ser Thr Gln Lys Val Ala Asp Thr His
50 55 60
Ile Pro Asn Tyr Pro Asn Leu Pro Tyr
65 70

<210> 1148
<211> 213
<212> PRT
<213> Pinus radiata

<400> 1148
Leu Lys Val Gln Trp Asp Glu Ile Ser Ala Ile Ala Arg Pro Glu Arg
1 5 10 15
Val Ser Pro Trp Lys Leu Glu Pro Ser Leu Thr Pro Val Ala Val Asn
20 25 30
Pro Leu Pro Val Ala Arg Gly Lys Arg Pro Arg Pro Asn Ile Leu Pro
35 40 45
Ser Ser Ser Asp Leu Ser Val His Asp Lys Ala Pro Val Asp Ser Thr
50 55 60
Gln Val His Arg Phe Pro Arg Val Leu Gln Gly Gln Glu Val Met Thr
65 70 75 80
Leu Gly Gly Ser Leu Gly Asp Gly Glu Leu Glu Ser Gly Gln Lys Met
85 90 95
Val Ala Trp Gly Gly Ser Lys Leu Asp Asp Val Lys Ala Glu Gly Met
100 105 110
Gly Cys Gln Arg Arg Leu Val Ser Glu Asn Trp Met Pro Pro Leu Arg
115 120 125
His Asp Ser Leu Tyr Ser Asp Thr Phe Ser Ser Phe Gln Pro Val Gly
130 135 140
Glu Val Gln Glu Phe Arg Gly Ser Leu Thr Asn Ser Ile Leu Glu Asp
145 150 155 160
Gly Gln Gln Pro Lys Leu Ser Arg Lys Gln Phe Gln Asp Gln Glu Gly
165 170 175
Lys Ile Val Asp Gly Ser Gly Leu Trp Ser Met Ser Phe Pro Asn Ser
180 185 190
Leu Gln Leu Cys Glu Ser Asn Arg Lys Met Ser Ala Thr Ser Ala Ala
195 200 205
Gln Ser His Lys Gln
210

<210> 1149
<211> 217
<212> PRT
<213> Pinus radiata

<400> 1149
Glu Leu Thr Ser Asp Ser His Arg Gln Ala Thr Leu Gln Leu Glu Ala
1 5 10 15
Glu Val Thr Ala Trp His Ile Ser Phe Cys Ser Leu Ile Lys Ser Gln
20 25 30
Gln Asp Tyr Ile Cys Ala Leu Tyr Glu Trp Ala Arg Leu Ser Leu Val
35 40 45
Gln Leu Gly Asn Glu Ala Gln Trp Glu Arg Gly Asn Arg Pro Pro Ile
50 55 60
Tyr Thr Leu Cys Asp Val Trp Gln Gln Val Leu Lys Arg Leu Pro Asp
65 70 75 80

Lys Val Ala Ser Glu Ser Ile Lys Ser Phe Ile Ser Val Val His Ala
85 90 95
Ile Val Met Gln Gln Ala Asp Glu Gln Lys Arg Lys Lys Lys Ala Glu
100 105 110
Asn Ile Ser Arg Glu Leu Gln Lys Lys Met Ile Ala Leu Arg Asn Ile
115 120 125
Glu Lys Lys Tyr Tyr Ser Ser Tyr Ser Ile Pro Ala Arg Ala Asp Ala
130 135 140
Thr Thr Glu Ser Gln Phe Glu Leu Gly His Thr Asp Pro Leu Ala Glu
145 150 155 160
Lys Arg Ala Glu Ile Glu Ile Tyr Lys Arg Arg Leu Glu Asp Glu Lys
165 170 175
Ala Asn Tyr Ser Lys Ser Ala Arg Gly Thr Arg Glu Met Thr Leu Asn
180 185 190
Asn Ile Gln Thr Gly Leu Pro Gly Leu Phe Gln Ala Leu Ser Ser Phe
195 200 205
Ser Ser Val Cys Ala Ser Ser Phe Glu
210 215

<210> 1150
<211> 33
<212> PRT
<213> Pinus radiata

<400> 1150
Met Ala Met Gly Glu Ala Glu Arg Ile Thr Gly Pro Trp Ser Pro Glu
1 5 10 15
Glu Asp Thr Ser Leu His Lys Leu Val Glu Lys Ser Gly Pro Arg Asn
20 25 30
Trp

<210> 1151
<211> 127
<212> PRT
<213> Pinus radiata

<400> 1151
Trp Arg Pro Ala Lys Phe Ala Arg Asn Leu Leu Pro Asn Tyr Phe Lys
1 5 10 15
Pro Asn Asn Phe Ser Ser Phe Gly Arg Gln Leu Asn Thr Tyr Gly Phe
20 25 30
Arg Lys Ile Val Pro Asp Arg Trp Glu Phe Ser Asn Glu Phe Phe Arg
35 40 45
Lys Gly Glu Lys Gln Leu Leu Ser Glu Ile His Arg Arg Lys Gly Leu
50 55 60
Ile Gln Pro Pro Pro Pro Pro Glu Asn Arg Ser Ile Ser Pro Ser Asn
65 70 75 80
Ser Gly Asp Glu Gln Thr Trp Ser Ser Thr Ser Ser Pro Asn Ser Ser
85 90 95
Thr Gly Val Asp Ala Leu Ser His Lys Asn Ala Ile Glu Glu Asn Glu
100 105 110
Lys Leu Arg Lys Glu Asn Leu Leu Leu Val Ser Glu Leu Thr Gln
115 120 125

<210> 1152
<211> 104

<212> PRT
<213> Pinus radiata

<400> 1152
Pro His Gly Leu Gln His His Ser Ser Asp Asp Ala Asn Gly Asp Gly
1   5   10   15
Asp Lys Arg Ile Gly Val Glu Thr Gly Ser Ser Val Cys Pro Glu Leu
            20   25   30
Trp His Ala Cys Ala Gly Pro Leu Ile Ser Leu Pro Pro Lys Gly Ser
        35   40   45
Arg Val Val Tyr Phe Pro Gln Gly His Leu Glu Gln Ile Ala Asp Asn
    50   55   60
Glu Leu His Arg Gly Gly Arg Gly Ser Phe Leu Asn Ile Asn His Ala
65   70   75   80
Ala Ala Pro Met Ala Glu Glu Ala Ser Ser Ala Ala Ala Leu Asn Ile
                85   90   95
Pro Pro Ser Phe Ile Ser Gln Pro
            100

<210> 1153
<211> 146
<212> PRT
<213> Pinus radiata

<400> 1153
Glu Thr Leu Thr Leu Leu Lys Ile Arg Ser Glu Met Asp Ser Lys Phe
1   5   10   15
Arg Glu Ala Thr His Lys Gly Pro Leu Trp Asp Glu Val Ser Arg Ala
            20   25   30
Leu Ala Glu His Gly Tyr Gln Arg Ser Ser Lys Lys Cys Arg Glu Lys
        35   40   45
Phe Glu Asn Leu Tyr Lys Tyr Tyr Lys Lys Thr Lys Glu Gly Lys Ala
    50   55   60
Gly Arg Gln Asp Gly Lys His Tyr Arg Phe Phe Ser Gln Leu Glu Ala
65   70   75   80
Leu Tyr Gly Gly Thr Thr Ile Asp Ala Ala Asp Ser Cys Phe Gly Val
                85   90   95
Thr Thr Arg Thr Asn Leu Thr Glu Ser Pro Gly Leu Asp Phe Asn Gly
            100   105   110
Asp Gly Ala Ser Gln Lys Tyr Ala Asp Thr His His Asn Ser Glu Gly
        115   120   125
Phe Ser Leu Ser Ser Asp Ser Ser Ser Asp Asp Glu Tyr Ser His Asp
    130   135   140
Ile Gln
145

<210> 1154
<211> 105
<212> PRT
<213> Pinus radiata

<400> 1154
Ile Phe Tyr Arg Leu His Cys Asn Leu Gly Glu Lys Ser Asn Lys Ile
1   5   10   15
Tyr Ile Cys Leu Phe Thr Met Glu Leu Ala Asp Glu His Ser Ile Leu
            20   25   30
Arg Tyr Lys Lys Pro Lys Leu Ser Lys Asn Val Val Ser Glu Arg Arg

35 40 45
Arg Arg Gln Lys Met Asn Lys Leu Leu Tyr Thr Leu Arg Ala Leu Val
50 55 60
Pro Asn Ile Ser Lys Met Asp Lys Ala Ser Ile Leu Ala Asp Ala Ile
65 70 75 80
Glu Tyr Val Glu Lys Leu Lys Gln Gln Val Glu Arg Ala Glu Ser Asp
85 90 95
Val Gln Ser Thr Asn Val Ser Ala Leu
100 105

<210> 1155
<211> 83
<212> PRT
<213> Pinus radiata

<400> 1155
Arg Glu Phe Asn Ile Asn Ala Asp Val Tyr Ala Gln Asp Ser Ile Glu
1 5 10 15
Leu Leu Lys Gln Ser Gly Ile Asp Phe Glu Lys Asn Glu Glu Lys Gly
20 25 30
Ile Asp Ser His Arg Phe Gly Glu Leu Leu Met Ser Ser Gly Val Val
35 40 45
Leu Asn Glu Asn Val Asn Trp Ile Thr Phe His Ser Gly Tyr Asp Phe
50 55 60
Gly Tyr Leu Leu Lys Leu Leu Thr Cys Gln Asn Leu Pro Pro Glu Glu
65 70 75 80
Ser Asp Phe

<210> 1156
<211> 170
<212> PRT
<213> Pinus radiata

<400> 1156
Met Ala Asn Arg Ser Leu Trp Gly Gly Ser Asp Phe Asp Tyr Glu Asn
1 5 10 15
Glu Ala Asp Thr Arg Lys Gly Pro Trp Thr Val Glu Glu Asp Met Gln
20 25 30
Leu Gly Ile Val Asn Leu His Gly Glu Gly Arg Trp Asn Phe Leu Ala
35 40 45
Arg Ala Ser Gly Leu Gln Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp
50 55 60
Val Asn Tyr Leu Arg Pro Asp Leu Lys Arg Ser Lys Ile Thr Pro Glu
65 70 75 80
Glu Glu Arg Leu Ile Ile Glu Leu His Arg Arg Trp Gly Asn Arg Trp
85 90 95
Ser Arg Ile Ala Gln Ser Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys
100 105 110
Asn Phe Trp Arg Thr Arg Met Lys Gly Lys Leu Asn Ser Glu Thr Gln
115 120 125
Lys Asp Ile Ala Gly Val Asp Ala Asp Asp Gly Val Gln Phe Glu Ser
130 135 140
Glu Leu Gly Ser Cys Arg Leu Pro Val Ile Ser Ser His Ala Leu Pro
145 150 155 160
Glu Val Asp Val Ala Glu Pro Ser Ser Thr
165 170

```
<210> 1157
<211> 119
<212> PRT
<213> Pinus radiata

<400> 1157
Gly Thr Val Gly Arg Lys Arg Arg Arg Ile His Arg Ser Ser Ile Gly
 1               5                  10                  15
Val Thr Gly Gly Arg Gly Leu Arg His Phe Ser Met Lys Val Cys Lys
            20                  25                  30
Lys Val Glu Ser Lys Gly Trp Thr Thr Tyr Asn Glu Val Ala Ser Glu
        35                  40                  45
Leu Val Ala Glu Phe Val Asn Pro Asn Ser Thr His Leu Ser Gln Asp
    50                  55                  60
Gln Gln Gln Phe Asp Glu Lys Asn Ile Arg Arg Arg Val Tyr Asp Ala
65                  70                  75                  80
Leu Asn Val Leu Met Ala Met Asp Ile Ile Ser Lys Glu Lys Lys Glu
                85                  90                  95
Ile Arg Trp Lys Gly Leu Pro Thr Thr Asn Leu Ser Asp Ile Glu Arg
            100                 105                 110
Leu Lys Thr Glu Arg Lys Arg
        115

<210> 1158
<211> 97
<212> PRT
<213> Pinus radiata

<400> 1158
Cys Pro Arg Ala Phe Ala Arg Ala Tyr Asn Leu Lys Thr His Met Ala
 1               5                  10                  15
Thr His Asp Pro Asn Arg Leu Lys Pro His Val Cys Pro His Arg Ser
            20                  25                  30
Cys Ala Arg Ser Phe Ser Arg Lys His Asp Leu Gly Arg His Leu Val
        35                  40                  45
Ser Ile His Arg Asp Asp Ser Val Val Ser Thr Pro Ser Ala Ser Met
    50                  55                  60
Lys Ser Ile Gly Val Asp Ser Gly Arg Arg Ser Trp Cys Asp Asn Cys
65                  70                  75                  80
Gly Lys Gly Thr Ile Gly Ala Ser Cys Gln Cys Ser Cys Ala Asp Ile
                85                  90                  95
Lys


<210> 1159
<211> 162
<212> PRT
<213> Pinus radiata

<400> 1159
His Ala Pro Ile Phe Cys Arg Val Ala Arg Asn Phe Gln Leu Arg Val
 1               5                  10                  15
Ile Leu Lys Glu Asn Arg Arg Arg Glu Thr Phe Asp Gly Phe Leu Arg
            20                  25                  30
Glu Asp His Glu Lys Val Ser Gln Leu Val Thr Gln His Tyr Lys Val
        35                  40                  45
```

Gln Leu Glu Thr Lys Glu Ile Ser Val Lys Gly Trp Asn Trp Gly Ser
    50   55   60
Thr Asp Val Gln Gly Asn Asp Leu Ala Phe Val Val Ala Asn Arg Thr
65   70   75   80
Ala Phe Glu Val Pro Leu Arg Ser Ile Thr Asn Ser Asn Ile Ala Gly
                85   90   95
Arg Thr Glu Val Ser Leu Glu Phe Ser Thr Ala Pro Ala Pro Ser Ala
            100   105   110
Ser Lys Ser Lys Lys Gly Arg Pro Asp Glu Leu Thr Glu Ile Arg Phe
        115   120   125
Tyr Val Pro Gly Thr His Thr Lys Asp Asp Asp Asp Glu Ala Asp Ile
    130   135   140
Thr Lys Asp Asp Glu Glu Val Ser Ala Ala Gln Ala Phe His Asp Met
145   150   155   160
Ile Lys

<210> 1160
<211> 163
<212> PRT
<213> Pinus radiata

<400> 1160
Gly Ser Gly Gly Val Lys Met Glu Asp His Ser Pro Val Ile Ile Asn
 1   5   10   15
Ser Gln Ser Gly Tyr Cys Gln Ser Gln Gln Ser Ser Gln Met Pro Leu
            20   25   30
Ala Gly Tyr Met Ser Pro His Gly Ile Pro Ile Gln His Thr Asp Asp
        35   40   45
Ala Ala Ser Lys Glu Thr Gln Tyr Leu Arg Arg Arg Cys Phe Asn Cys
    50   55   60
His Thr Thr Glu Pro Pro Ser Trp Arg Arg Ser Thr Leu Thr Pro Gly
65   70   75   80
Lys Ile Val Cys Asn Lys Cys Gly Leu Tyr Glu Arg Thr His Leu Arg
                85   90   95
Pro Arg Pro Leu Arg Phe Asp Glu Leu Arg Ala Gly Asn Lys Ser Arg
            100   105   110
Lys Gln Thr Lys Ser Ser Pro Lys Gly Ala Lys Val Ile Pro Pro Gly
        115   120   125
Pro Leu Pro Ile Lys Lys Glu Pro Ala Glu Met Glu Ala Ile Ser Arg
    130   135   140
Arg Met Ser Val Ser Ser Ser Ser Ser Ala Gln Ser Gly Gly Gly Gly
145   150   155   160
Ser Ser Asp

<210> 1161
<211> 148
<212> PRT
<213> Pinus radiata

<400> 1161
Arg Asn Leu Leu Gly Ala Arg Ala Gln Pro Met Lys Leu Ser Ala Lys
 1   5   10   15
Asn Asp Ser Lys Leu Gly Ile Ala Arg Pro Ala Lys Leu Tyr Arg Gly
            20   25   30
Val Arg Gln Arg His Trp Gly Lys Trp Val Ala Glu Ile Arg Leu Pro

35 40 45
Arg Asn Arg Thr Arg Leu Trp Leu Gly Thr Phe Asp Thr Ala Glu Glu
50 55 60
Ala Ala Phe Ala Tyr Asp Thr Ala Ala Tyr Gln Leu Arg Gly Glu Tyr
65 70 75 80
Ala Arg Leu Asn Phe Pro Asp Leu Arg Tyr Leu Leu Leu Ser Asn Ser
85 90 95
Asp Asn Gly Ser His Asn Val Leu Ser Pro Pro Gly Asn Ala Leu Ser
100 105 110
Val Leu Lys Ser Ser Val Asp Ala Lys Leu Gln Ala Ile Cys Gln Arg
115 120 125
Leu Ser Gln Glu Asn Ser Ser Glu Asn Arg Leu Met Ala His Ser Ala
130 135 140
Asn Asn Glu Ala
145

<210> 1162
<211> 48
<212> PRT
<213> Pinus radiata

<400> 1162
Phe Leu Glu Ala Leu Glu Lys Arg Glu Glu Asp Arg Met Met Arg Glu
1 5 10 15
Glu Ala Trp Lys Arg Gln Glu Met Ala Arg Leu Asn Lys Asp Gln Glu
20 25 30
Leu Arg Ser Gln Glu Arg Ser Met Ala Ala Ser Arg Asp Leu Ala Leu
35 40 45

<210> 1163
<211> 255
<212> PRT
<213> Pinus radiata

<400> 1163
Val Ala Leu Ser Asn Asn Pro Leu Ile Phe Ser Ala Lys Val Glu Asn
1 5 10 15
Gly Thr Pro Ser Tyr Asp Gly Leu Lys His Ala Asn Thr Asn Pro Met
20 25 30
Pro Phe Ser Gly Leu Gly Asn Val Ser Met Gly Pro Leu Phe Tyr Gln
35 40 45
Ala Asn Pro Ile Gln Arg Val Lys Arg Val Arg Asp Thr Ser Phe Ile
50 55 60
Met Gly Pro Pro Ser Ser Pro Phe Gly Arg Met Gly Val Asn Gly His
65 70 75 80
Met Gly Met Asn Asp Val Ser Lys Ser Leu Gln Pro Gly Phe Lys Ala
85 90 95
Arg Val Pro Tyr Pro Leu Gln Ala Ala Arg Ser Asp Ser Phe Val Ala
100 105 110
Gln Gly Cys Phe Pro Tyr Asp Pro Asn Leu Ser Ser Thr Ser Asn Leu
115 120 125
Pro Leu Gly Gly Phe Ser Ser Gly Ser His Ala Val Met Asn Gly Thr
130 135 140
Phe Ser Ser Ser Arg Leu Phe Ser Gly Gln Lys Leu Glu Leu Pro Ser
145 150 155 160
Ser Gln Phe Ala Glu Ser Val Gln Thr Ala Gly Ser Ser Ile Asn Pro
165 170 175

Val Leu Asn Arg Ser Thr Pro Leu Leu Leu Pro Pro Val Pro Thr Gln
180 185 190
Thr Ile Asn Gln Val Asp Tyr Ser Phe Ser Thr Pro Lys Asn Ser Gly
195 200 205
Leu Leu Glu Ser Met Phe Gln Glu Ala Gln Thr Met Gly Gly Val Lys
210 215 220
Ala His Ser Ser Ser Asn Ser Ser Ile Asp Leu Gln Gly Gly Ser Lys
225 230 235 240
Ser Ser Ile Ser Asn Pro Leu Asn Asn Gly Phe Leu Cys Arg Ser
245 250 255

<210> 1164
<211> 147
<212> PRT
<213> Pinus radiata

<400> 1164
Ile Arg Met Glu Glu Pro Leu Gln Ile Ile Asn Ser Ser Pro Ile Gln
1 5 10 15
Gln Gln His Asp His Asp Asp Asp Asp His Gly His Gly His Glu Glu
20 25 30
Glu Val Ile Pro His Pro Leu Leu Pro Pro Pro Gly Asp Thr Cys Ile
35 40 45
Val Pro Tyr Ile Met Pro Val Ser Thr Ser Thr Ala Glu Lys His Pro
50 55 60
Pro Gln Pro Thr Asn Ile Ala Phe Asn Gly Pro Glu Thr Glu Glu Asp
65 70 75 80
Asp Lys Lys Arg Asp Arg Glu His Lys Lys Arg Ser Lys Asn Trp Thr
85 90 95
Arg Val Glu Thr Leu Lys Leu Ile Lys Leu Arg Thr Glu Phe Glu Pro
100 105 110
Arg Phe Ser Arg Ser Gly Arg Lys Thr Glu Leu Trp Asp Glu Ile Ala
115 120 125
Glu Ser Leu Arg Lys Glu Gln Phe Phe Arg Asp Ala Gln Gln Cys Arg
130 135 140
Asp Lys Trp
145

<210> 1165
<211> 202
<212> PRT
<213> Pinus radiata

<400> 1165
Met Asp Gln Gln Gln Pro Thr Ile Pro Ala Leu Pro Gln Val Gly Tyr
1 5 10 15
Gly Thr Asn Pro Tyr Ile Ala Pro Pro Ile Gly Gly Pro Pro His Pro
20 25 30
Gln Leu Ala Ser Tyr His Gln Gln Leu Gln Ala Phe Trp Gly Asn Gln
35 40 45
Met Arg Glu Val Glu Gln Ala Gln Asp Phe Lys Thr His Ser Leu Pro
50 55 60
Leu Ala Arg Ile Lys Lys Ile Met Lys Ala Asp Glu Asp Val Lys Met
65 70 75 80
Ile Ser Ala Glu Ala Pro Val Val Phe Ala Lys Ala Cys Glu Met Phe
85 90 95
Ile Leu Glu Leu Thr Leu Arg Ser Trp Ile His Thr Glu Glu Asn Lys

            100   105   110
Arg Arg Thr Leu Gln Lys Asn Asp Ile Ala Ala Ala Ile Gly Arg Thr
        115   120   125
Asp Ile Phe Asp Phe Leu Val Asp Ile Val Pro Arg Asp Glu Phe Lys
    130   135   140
Asp Glu Gly Leu Val Ile Pro Arg Ala Ala Gly Ala Val Pro Phe Met
145   150   155   160
Gly Pro Gly Asp Asn Val Pro Ser Tyr Tyr Tyr Val Ala Gln Gln Ala
                165   170   175
Pro Asn Val Ala Ala Tyr Ala Pro Pro Thr Gln Gln Met Arg Ser Lys
            180   185   190
Ala Pro Ala Pro Pro Pro His Gly Ser Ser
        195   200

<210> 1166
<211> 143
<212> PRT
<213> Pinus radiata

<400> 1166
Gln Gly Ser Leu Thr Leu Pro Arg Thr Leu Ser Arg Arg Thr Val Asp
 1   5   10   15
Asp Val Trp Arg Glu Ile His Lys Glu Asn Ile Asp Gly Asn Gly Asn
            20   25   30
Ala Pro Ala Asn Gln Ala Arg Gln Pro Thr Phe Gly Glu Met Thr Leu
        35   40   45
Glu Asp Phe Leu Val Lys Ala Gly Val Val Arg Glu Asp Ala Glu Gln
    50   55   60
Gly Asp Gly Gln Ser Phe Gly Ala Phe Arg Asn Ala Leu Asp Gly Glu
65   70   75   80
Phe Val Ala Asn Leu Ala Glu Arg Asn Gly Asp Asn Arg Leu Gly Ile
                85   90   95
Gly Asn Ser Leu Gly Leu Gly Phe Gly Glu Arg Gly His Arg Asn Gly
            100   105   110
Glu Val Gly Ser Asn Lys Ser Gly Ala Gly Gly Val Pro Gly Leu Ser
        115   120   125
Leu Ser Pro Thr Asn Val Phe Leu Ile Met Leu Pro Trp Ile Trp
    130   135   140

<210> 1167
<211> 90
<212> PRT
<213> Pinus radiata

<400> 1167
Phe Gln Arg Arg Lys Lys Lys Ser Ile Gly Arg Gly Cys Leu Lys Thr
 1   5   10   15
Ser Ile Asn Asp Val Glu Gln Leu Lys Ala Glu Lys Leu Leu Leu Lys
            20   25   30
Ser Arg Ile Glu Lys Lys Ala Ser Tyr Phe His Glu Leu Glu Glu Gln
        35   40   45
Ile Ile Gly Leu Gln Asn Leu Val Lys Arg Asn Glu His Arg Tyr Ser
    50   55   60
Ser Gly Asn Thr Pro Ser Gly Gly Val Ser Leu Pro Phe Ile Leu Val
65   70   75   80
Gln Thr His Pro Arg Ala Thr Val Glu Ile
                85   90

<210> 1168
<211> 105
<212> PRT
<213> Pinus radiata

<400> 1168
Gly Ile Arg Arg Ala Thr Arg Gln Lys Ser Gly Ile Leu Ser Ser Val
1   5   10   15
Leu Ser Asn Gln Asn Ala His Leu Ser Val Leu Ala Ala Ala Ala Ser
            20   25   30
Ala Val Ala Thr Lys Ser Met Phe His Val Phe Tyr Asn Pro Arg Thr
        35   40   45
Ser Pro Ala Glu Phe Ile Ile Pro Tyr Gln Lys Tyr Val Lys Ser Cys
    50   55   60
Lys Gln Pro Leu Ser Ile Gly Met Arg Phe Lys Met Arg Phe Glu Thr
65   70   75   80
Glu Asp Thr Ala Glu Arg Arg Tyr Thr Gly Met Ile Thr Ala Ile Gly
                85   90   95
Asp Ala Asp Pro Ala Arg Trp Pro Gly
            100   105

<210> 1169
<211> 106
<212> PRT
<213> Pinus radiata

<400> 1169
Gln Asp Thr His Ser Glu Pro Met Ala Met Glu Met Gly Leu Val Ile
1   5   10   15
Asp Gly Asp Arg Phe Ser Ser Glu Gly Asp Gly Asp Ile Met Leu Asp
            20   25   30
Gly Glu Asp Leu Leu Pro Glu Ile Asn Asp Met Phe Trp Glu Gln Phe
        35   40   45
Leu Ala Glu Ser Ala Thr Ser Gly Gly Thr Glu Glu Ala Glu Ser Ala
    50   55   60
Ala Gln Glu Ser Leu Thr Lys Asp Gln Asp Glu Lys Pro Ser Glu Asn
65   70   75   80
Gly Asn Trp Trp Lys Lys Asn Gln Asn Met Asp Asn Leu Thr Glu Gln
                85   90   95
Met Gly Gln Leu Ala Ser Glu Ser Asn Pro
            100   105

<210> 1170
<211> 144
<212> PRT
<213> Pinus radiata

<400> 1170
Asp Gly Ala Val Arg Asp Ala Gly Arg Leu Val Pro Ala Pro Phe Leu
1   5   10   15
Val Lys Met Tyr Arg Leu Val Asp Asp Pro Ser Thr Asn His Ile Val
            20   25   30
Ser Trp Gly Glu Asn Asn Asn Ser Phe Val Val Trp Arg Pro Lys Glu
        35   40   45
Phe Ser Ala Ser Val Leu Pro Cys Tyr Phe Asn His Ala Asn Phe Ser
    50   55   60

Ser Phe Val Arg Gln Leu Asn Asn Tyr Gly Phe Arg Lys Thr Phe Arg
65   70   75   80
Gly Gln Cys Glu Phe Ser Asn Lys Leu Phe Glu Lys Gly Lys Gln Tyr
                85   90   95
Leu Leu Cys His Ile His Arg Arg Arg Ala Ser Asn Ser Ser Pro Met
            100   105   110
Pro Met Glu Tyr Gly Lys Ser Ser Leu Leu Phe Pro Ile Ile Leu Pro
        115   120   125
Thr Gln His Ser Asn Val Leu Ala Ala Pro Leu Pro Ser Ser Leu Ser
    130   135   140

<210> 1171
<211> 62
<212> PRT
<213> Pinus radiata

<400> 1171
Lys Glu Arg Ile Leu Thr Glu Glu Asn Leu Phe Leu Arg Lys Lys Cys
1   5   10   15
Gly Asp Glu His Val Asp Cys Ser Ala Phe Arg Thr Pro Pro Ala Gln
            20   25   30
Leu Arg Ser Ile Gln Asn Ile Asp Val Glu Thr Gln Leu Val Ile Arg
        35   40   45
Pro Pro Thr Val Gln Gln His Pro Asp Val Asp Ser Pro Arg
    50   55   60

<210> 1172
<211> 88
<212> PRT
<213> Pinus radiata

<400> 1172
Asp Pro Asn Ala Pro Lys Lys Ala Met Thr Gly Phe Met Phe Phe Ser
1   5   10   15
Gln Val Glu Arg Glu Asn Leu Lys Lys Ser Asp Pro Gly Met Ala Phe
            20   25   30
Thr Asp Val Gly Arg Thr Leu Gly Glu Arg Trp Lys Lys Met Ser Ala
        35   40   45
Glu Glu Lys Ala Pro Tyr Glu Ser Lys Ala Arg Ala Asp Lys Glu Arg
    50   55   60
Tyr Lys Glu Ala Met Ala Asp Tyr Lys Ser Gly Pro Thr Asn Val Asp
65   70   75   80
Ser Gly Asn Glu Ser Asp Ser Glu
                85

<210> 1173
<211> 106
<212> PRT
<213> Pinus radiata

<400> 1173
Leu Leu Phe Gly Val Asn Ile Asp Ser Ser Ser Leu Ile Val Pro Asn
1   5   10   15
Thr Val Ser Asn Met Arg Ser Ile Gly Ser Ser Thr Asp Ala Val Met
            20   25   30
Gln Phe Gly Val Ser Asn Tyr Leu Asn Ala Pro Pro Cys Ala Ser Gly
        35   40   45

Ser Asn Ile Ser Leu Asn Ser Asp Ile Ser Ala Ser Ala Cys Leu Asp
    50   55   60
Glu Ser Gly Leu Leu Pro Pro Ala Glu Asn Leu Gly Gln Met Asn Ala
65   70   75   80
Pro Thr Arg Thr Phe Ile Lys Val Tyr Lys Gln Gly Ser Val Gly Arg
                85   90   95
Ser Leu Asp Ile Ser Arg Phe Ser Ser Tyr
            100   105

<210> 1174
<211> 108
<212> PRT
<213> Pinus radiata

<400> 1174
Met Ala Thr Thr Arg His Gln Arg Ser Pro Asp Ser Ser Pro Arg Ser
 1   5   10   15
Glu Asp Glu Ser Gly Ala His Thr Tyr Ser Asn Gln Asp Gly Ser Val
            20   25   30
Lys Glu Gln Asp Arg Phe Leu Pro Ile Ala Asn Val Ser Arg Ile Met
        35   40   45
Lys Lys Ala Leu Pro Ala Asn Ala Lys Ile Ser Lys Asp Ala Lys Glu
    50   55   60
Thr Val Gln Glu Cys Val Ser Glu Phe Ile Ser Phe Ile Thr Gly Glu
65   70   75   80
Ala Ser Asp Lys Cys Gln Arg Glu Lys Lys Lys Thr Ile Asn Gly Asp
                85   90   95
Asp Leu Leu Trp Ala Met Gly Thr Leu Gly Phe Glu
            100   105

<210> 1175
<211> 137
<212> PRT
<213> Pinus radiata

<400> 1175
Lys Ser Asp Tyr Arg Asp Ser Asp Asp Glu Gly Gly Gly Thr Val Arg
 1   5   10   15
Glu Gly Lys Asp Leu Gln Thr Ser Asn Phe Ile Asp Tyr Phe Gly Gln
            20   25   30
Ser Asn His Thr Glu Glu Ala Glu Asn Glu His Asp Ala Ser Val Asp
        35   40   45
Thr Lys Gly Pro Leu Glu Ser Ser Asn Glu Val Gly His Pro Thr Thr
    50   55   60
Tyr Pro Glu Ser Ser Ser Leu Ser Ala Gln Gly Ser Glu Pro Arg Val
65   70   75   80
Phe Ser Cys Asn Tyr Cys Gln Arg Lys Phe Tyr Ser Ser Gln Ala Leu
                85   90   95
Gly Gly His Gln Asn Ala His Lys Arg Glu Arg Thr Leu Ala Lys Arg
            100   105   110
Gly Gln Arg Ile Gly Ala Phe Gln His Arg Tyr Ile Ser Met Ala Ser
        115   120   125
Leu Pro Leu His Gly Ser Thr Glu Ser
    130   135

<210> 1176
<211> 206

<212> PRT
<213> Pinus radiata

<400> 1176
Ser Arg Gly Lys Ala Leu Lys Leu Phe Gly Phe Glu Phe Arg Gly Ser
1   5   10   15
Glu Gly Gly Ser Phe Glu Gly Thr Asn Gly Ser Asp Gln Pro Gln Asp
            20   25   30
Gly Thr Asn Ile Leu Thr Ala Gly Glu Ala Ser Thr Glu Pro Val Glu
        35   40   45
Glu Glu Leu Val Ile Glu Ala Lys Asn Gly Asp Ser Gly Lys Leu Glu
    50   55   60
Asp Val Gly Ser Pro Val Glu Ala Gly Glu Ser Gly Ser Thr Ser Asn
65   70   75   80
Cys Leu Gly Ser Ser Ala Gln Glu Asn Arg Lys Tyr Glu Cys Gln Tyr
                85   90   95
Cys Cys Arg Glu Phe Ala Asn Ser Gln Ala Leu Gly Gly His Gln Asn
            100   105   110
Ala His Lys Lys Glu Arg Gln Gln Ala Lys Arg Ala His Leu Leu Ala
        115   120   125
Thr Arg Ser Ala Ala Ala Ser Ala Asn Arg Ser Gly Ala Thr Ala Trp
    130   135   140
Cys Gly Asn Ile Asn Gly Asn Leu Tyr His Arg Asn Phe Leu Phe Asn
145   150   155   160
Asn Ser Tyr Phe Thr Arg Met Gln Val Phe Gln Glu Asp Phe Pro Thr
                165   170   175
Phe Gln Thr Pro Gln Ala Val Ala Ala Pro Ser Ile Pro His Tyr Ile
            180   185   190
Phe Ser Tyr Gln Gln Gln Gln Gln Ala Pro Val Gln Ser Arg
        195   200   205

<210> 1177
<211> 116
<212> PRT
<213> Pinus radiata

<400> 1177
Val Pro Glu Asn Ser Lys Gln Ile Ile Asn His Gly Leu Ile Leu Pro
1   5   10   15
Glu Met Gly Ser Val Asp Ser Gly Arg Glu Gly Thr Arg Ala Ile Leu
            20   25   30
Ser Asp Asp Cys Val Lys Phe Glu Cys Arg Tyr Cys Cys Arg Val Phe
        35   40   45
Pro Thr Ser Gln Ala Leu Gly Gly His Gln Asn Ala His Lys Arg Glu
    50   55   60
Arg Arg Arg Ala Met Thr Arg Phe Gln Arg Ser Pro Ser Asp Ser Ser
65   70   75   80
Asn Tyr Ser Gly Lys Gln Asn Ser Ile Asp Leu Phe Ser Arg Glu Arg
                85   90   95
Val Pro Gly Ser Ser Leu Leu Ser Pro His Gly Thr Arg Asp His Val
            100   105   110
Val Cys Ser Asp
        115

<210> 1178
<211> 122
<212> PRT

<213> Pinus radiata

<400> 1178

```
Lys Lys Ala Ser Glu Trp Gly Glu Ser Val Val Ser Thr Ser Glu Asn
 1               5                  10                  15
Ser Asn Asp Leu Asp Pro Pro Thr Tyr Ser Glu Thr Ser Ser Pro Ala
            20                  25                  30
Gln Gly Ser Asp Pro Arg Val Phe Pro Cys Asn Phe Cys Gln Ser Lys
        35                  40                  45
Phe Tyr Ser Ser Gln Ala Leu Gly Gly His Gln Asn Ala His Lys Arg
    50                  55                  60
Glu Arg Thr Leu Ala Arg Arg Ala Gln Arg Met Gly Ser Phe Ala Gln
65                  70                  75                  80
Arg Tyr Ser Ser Met Ala Ser Leu Pro Leu His Gly Ser Ser Glu Thr
                85                  90                  95
Ser Trp Thr Pro Ser Arg Phe Leu Gly Ile Lys Ala His Ser Leu Ile
            100                 105                 110
His Lys Pro Phe Pro Glu Gly Asp Asn Leu
        115                 120
```

<210> 1179
<211> 113
<212> PRT
<213> Pinus radiata

<400> 1179

```
Met Thr Gln Ala Thr Asn Tyr Thr Ala Gly Thr Ile Arg Asp Asp Gln
 1               5                  10                  15
Glu Glu Gln Cys Val Arg Arg Gly Pro Trp Thr Val Asp Glu Asp Met
            20                  25                  30
Ser Leu Ile Arg Cys Val Thr Thr Arg Gly Glu Gly Arg Trp Asn Thr
        35                  40                  45
Val Ala Lys Phe Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu
    50                  55                  60
Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Lys Arg Gly Asn Ile Thr
65                  70                  75                  80
Pro Glu Glu Gln Leu Leu Ile Leu Glu Leu His Arg Leu Trp Gly Asn
                85                  90                  95
Arg Trp Ser Lys Ile Ala Arg Gln Leu Pro Gly Arg Thr Asp Asn Glu
            100                 105                 110
Ile
```

<210> 1180
<211> 76
<212> PRT
<213> Pinus radiata

<400> 1180

```
Met Arg Arg Pro Gln Arg Lys Lys Lys Thr Asp Ala Glu Asp Asp Phe
 1               5                  10                  15
Asp Glu Cys Tyr Tyr Thr His Met Cys Lys Ile Cys Lys Lys Lys Phe
            20                  25                  30
Val Ser Gly Arg Ala Phe Gly Gly His Met Arg Ile His Gly Pro Val
        35                  40                  45
Ala Thr Ala Ala Ala Ala Ala Ala Glu Ser Asn Gly Lys Asn Leu Glu
    50                  55                  60
```

Pro Gln Arg Lys Arg Ser Arg Ala Glu Glu Ile Arg
65 70 75

<210> 1181
<211> 130
<212> PRT
<213> Pinus radiata

<400> 1181
Val Gly Cys Lys Gly Ser Asp Ala Phe Glu Glu Ser Leu Lys His Phe
1 5 10 15
Cys Arg Val Cys Lys Arg Arg Phe Ala Cys Gly Arg Ala Leu Gly Gly
20 25 30
His Met Arg Val His Gly Ala Glu Leu Gly Ala Ile Lys Gly Gly Gly
35 40 45
Leu Glu Glu Gln Phe Glu Lys Gly Arg Val Lys Glu Pro Ser Arg Ser
50 55 60
Cys Gly Asp Ser Val Lys Glu Gly Val Gln Asp Glu Val Glu Gly Leu
65 70 75 80
Asn Ser Met Tyr Thr Leu Arg Arg Asn Pro Lys Arg Ser Trp Arg Phe
85 90 95
Ala Asp Gln Asp Tyr Ser Phe Ala Phe Gly Gly Val Asp Gly Ser Gly
100 105 110
Ala Lys Arg Phe Gly Ser Thr Phe Leu Arg Asp Ser Arg Val Cys Glu
115 120 125
Glu Cys
130

<210> 1182
<211> 86
<212> PRT
<213> Pinus radiata

<400> 1182
Arg Asn Tyr Leu Gly Glu Tyr Thr Gly Glu Leu Ile Ser His Arg Glu
1 5 10 15
Ala Asp Lys Arg Gly Lys Ile Tyr Asp Arg Glu Asp Ser Ser Phe Leu
20 25 30
Phe Asn Leu Asn Asp Gln Tyr Val Leu Asp Ala Tyr Arg Lys Gly Asp
35 40 45
Lys Leu Lys Phe Ala Asn His Ser Pro Thr Pro Asn Cys Tyr Ala Lys
50 55 60
Val Ile Met Val Ala Gly Asp His Arg Val Gly Ile Phe Ala Lys Glu
65 70 75 80
Arg Ile Ala Ala Gly Glu
85

<210> 1183
<211> 462
<212> DNA
<213> Eucalyptus grandis

<400> 1183
acaaacaaac aaacaagacg gaacgagatg aagacggttc agtcgaagaa gttcaggggc 60
gtcagacagc gtcactgggg ctcttgggtt tccgaaattc gccatcctct gttgaagaga 120
agggtgtggc tgggcacgtt cgagacggct gaggaggcgg cacgagccta cgaccaggcc 180
gccatcttga tgagtggccg caatgcaaag accaacttcc cgacatctca aaccacgaac 240

ggcgaccccg ccgctgccaa ttccttgtct tcctcgaagc acttgtcgga gatcctccac 300
gcgaantcaa ganatgcagc aagacgccgt cgccatccct cacctgccta aggctcgaca 360
ctgagaactc ccacatcgga gtctggcaga agggtgccgg ccagcgtcag actcaactgg 420
gtatgaccgt acagtcggaa caaaaatccg atccattggt ag 462

<210> 1184
<211> 340
<212> DNA
<213> Eucalyptus grandis

<400> 1184
gactccccct atcccctctc tttctccctc tcaagaatca agagattact atggaaagcg 60
aacgctacga tgagacgaca gaggggcagc gaatcaagag aaggccgcac cagcagcagc 120
agcagcagca gcagcggcgg cagaagcctt acaggggtat ccggatgagg aagtggggca 180
agtgggtggc cgagatcagg gagcccaaca agcgctcccg catctggctc ggctcctatg 240
ccaccccgt ggccgccgcc cgcgcctacg acaccgccgt cttctacctc cgcggcccct 300
ccgcccgcct caacttcccc gacctcatct ggcgcgaggg 340

<210> 1185
<211> 190
<212> DNA
<213> Eucalyptus grandis

<400> 1185
cttggggttg acatggcgcg acgtggcgga ggaaggaggc gaacggcggc tccgaggcgt 60
ccgacgccgt cttgccgcga gctcatcatc gccatcgtta caagggagtg aggatgcgga 120
agtgggggaa gtgggtggcg gagatacggc agcccaacag ccgggaccgc atctggctcg 180
gctcctacgc 190

<210> 1186
<211> 473
<212> DNA
<213> Eucalyptus grandis

<400> 1186
aacaaaggtn tgtgtatgga accattctgg atagcattgc aaaggttact ggaattgtga 60
agtttgatct gcatgctgag ccagaggaag gaaaaaagaa gattgaggtc ggaggaaatg 120
ttgcaggtgt gtttgaccta ggaccaggta gaattnggtt ctgaagctgt ttttgtccct 180
cgagagcctg gcatcacttc tgaagaagat gatgggtacc tgatattctt tgtccatgat 240
gaaagcacag ggaagtcggc agtaaatgta attgatgcga aaaacatgtc atctgatcct 300
gttgctgtcg ttgaattacc ccatagggtt ccttatggct tccatgcctt cttcgtgact 360
gaggaacaac ttcaggaact ggctaagctg taggtctcta catgcacgaa ttgttgggaa 420
tgcagatgtt gcgaggggag gcatatctct ggaaagctgc tacagttgat cta 473

<210> 1187
<211> 333
<212> DNA
<213> Eucalyptus grandis

<400> 1187
accagatcca gatgcagagg tcattgcact atcgccaaag acgctcatgg cgacgaacag 60
gttcgtttgc gagatatgca acaaaggctt ccagagggac cagaacctgc agctgcaccg 120
gaggggccac aacctgccat ggaagctccg gcagaggagc aaggagatcg tcaagaagaa 180
ggtttatata tgccctgaga agacgtgcgt gcaccacgac ccttcaaggg cacttggcga 240
cctcactggg atcaagaagc acttcagccg gaagcatggc gagaagaagt ggaagtgtga 300
gaagtgctcg aagaagtacg cagtccagtc aga 333

<210> 1188
<211> 420
<212> DNA
<213> Eucalyptus grandis

<400> 1188
taaaaaccat gcagtctctc agccactgaa catggcgctt gaagctctca actcgcccac 60
cgccgccgcc cccttcggcc acgacgacgc ggacggccac ccgtgggcca aacggaagcg 120
ctccaagcgc ccccgcgcgg accctcagga ccagccctcc gaggaggagt acctggccct 180
ctgcctcatc atgctcgccc gccgccgccg ccgacccggc agcagcggca ggctccacga 240
gtgctccatc tgccacaagg ccttccccac cggccaggcc ttgggcggcc acaagcggtg 300
ccactacgac ggcggcagca gtagcagcgc cgcccgtgct gcctcttcct cagaagccgg 360
cggtcctagc cacacgactg tcagccaccg cgagccgatc gacttgaact tgccggcctt 420

<210> 1189
<211> 365
<212> DNA
<213> Eucalyptus grandis

<400> 1189
tgacgccgag cgacgtgggg aagctgaacc ggctggtgat cccgaagcag cacgcggaga 60
agcacttccc gctgccgggc gggccggcgg cgacgatgaa gggcgtactg ctcaacttcg 120
aggacgtcgg cgggaaggtg tggcggttcc ggtattcgta ctggaacagc agccagagct 180
acgtgctcac caagggttgg agccggttcg tgaaggagaa gagcctgaag gccggcgaca 240
ccgtntgctt ccagcggtcg accgggccgg acaagcagct ntacatcgac ttcaagccgc 300
ggggccagcc gccggccggc ccggccgcgc cgccgccgcc gcccgtacag atggtgaggc 360
tgttc 365

<210> 1190
<211> 434
<212> DNA
<213> Eucalyptus grandis

<400> 1190
atcacttcaa caccatgacc ttacaaaaac aaagcaattg ttagaaccat ggttgctcaa 60
ctgaagaact tcgatgctgc gctacaagaa ttggaggaga agaagaagaa cgaagtcgac 120
cctagctcga gcatcggttc gtggatgtgg aaccctagtg ccgcccagga ggatgatgac 180
tcgtgggagg tgagagcctt cgccgaagac actagcaaca ttatgggcgc aacctggccg 240
ccgaggtcct acacttgctc tttctgtaga agggagttcc ggtccgccca agccctcggc 300
ggccacatga atgtccaccg cagagaccgt gctaagcttc accaatcaca attccggccg 360
ctggcgaacc aaaattctcc tttcgcttct tgctcttccc cgtcctcctc gactctgcta 420
ttcccgaatc aaga 434

<210> 1191
<211> 479
<212> DNA
<213> Eucalyptus grandis

<400> 1191
gaatcgtttc ttggactttc ttgagctgct cctttcgcct catttctcaa gtgcgtgaaa 60
accaaaaaaa tggtgagggg gaagactcag atgaggagga tagagaacaa gacgagcagg 120
caagtgacct tctcgaagcg tcggaacggg ctgctcaaga aggccttcga gctctcggtt 180
ctttgcgatg ctgaagtcgc cgccatcatt ttctctccta ctggaaaact ttatgagttc 240
tctacctcaa gcatgagcag cataatagaa cgatatcaaa ggaaaacaaa ggacccgggg 300
tgcagcgaga aaactaccga aatcgatttg cagaatatga agggaaactc tctagacatg 360
gcaaagatga tcgaacttct caacgtttcc aacagtcggc tctcaggaga actttcagat 420
acgtgttcag ttgaggagct acaatcaaca cagaacctgt tagagagaag cttatccaa 479

<210> 1192
<211> 310
<212> DNA
<213> Eucalyptus grandis

<400> 1192
ccctcttcct cttcctctcc ctctctctgt cgcagagctc cgtctgaact cgcagaatcc 60
acgcgcagag cgacccaaga gtgtttcaga acagtccgtc catggccttg gaagctatca 120
actctcccac cgcggcctca gcgccgttcc agttcatgga ggagcccttg agctcccgct 180
tcttggagcc cctgaacaag cgcaagcgct ccaagcgccc ccaccaccct ccctccgaag 240
atgagtacct cgccctctgc ctcatcatgc tcgcccgcag cggcgccgcc cccaagccca 300
accaccacgc 310

<210> 1193
<211> 466
<212> DNA
<213> Eucalyptus grandis

<400> 1193
tttttttttt tttttattca aaaacaaaat ctcacttgcc ctttcttaat atatagtagc 60
caaagccttc tggagatcac cttttatcag ctaccaccag tcagataggt ctattgaata 120
tgcttgattg ctcgttcctc aagcatatgc aactacaaag actcccatat caaagcacta 180
gctgcatata cacttttaag ctaactaaca agagaattta aaaagaaaat cctcgctgca 240
ccaaaaaggc tcgatccata tgggcaccaa aacaaatagc tcacattggc ataagctttg 300
gaccattatc aggcatgccc atccctgcag ctaactcagc atcaagctga gtatgtggcg 360
caggacccat catttgcttc atacgtttct tgtggcgctt cgtcttgaaa tgctcgtccc 420
tcgtagcaac attcggaaaa tatcggtcgc agtgcaggca atagta 466

<210> 1194
<211> 295
<212> DNA
<213> Eucalyptus grandis

<400> 1194
gccacccaac acacacccaa gaaaattctt agagcctcct tagatatgcc tacagacctg 60
gacaattcgt ccacagcttc aggggaagct agtgtctcgt cttctggcaa tcagccgcct 120
ccacaaccac cgccaccgcc ttccaccacc aagaaaaaga ggaatctccc tggaatgccc 180
gatccagatg cagaggtgat agctctgtct cccacgaccc tattggccac caacaggttc 240
gtctgcgaaa tctgcaacaa gggatttcag agggaccaga acttgcagct ccaca 295

<210> 1195
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 1195
tccaccctca ctcgcgaagt caaaatcttc tagtgtagcc atattcttga tgaacattca 60
cacgcaacta ccgtcggacg tgcgggtgcc gacgccggcg cagtcgtctt cgccgtcccc 120
gtcgcagtcg tcgcagtcgg agtcctccgc gagccacgcc gcgtgctccg acgaggagcc 180
ggccgtggcg ctggcttcca gccggcccaa gaggccggct gggcggaagg tcttcaagga 240
gacgaggcac ccggtgtacc gtggggtgcg gcggcggaac aggggcaagt gggtgtgcga 300
gctccgggag cccaacaaga agacccgggt atggctc 337

<210> 1196
<211> 450
<212> DNA

<213> Eucalyptus grandis

<400> 1196
gaatgatgca tgtgatggac cggtaacagg acttgcactg tcaaagtgcc gnacgctcat 60
cggtctgcca gaaactcacg gagagagaga gatggcggag agagaggaga aggggaagta 120
cgacgagatg atgatgaaga aggggagcga cgganggata gcggaggtga atcccacgcc 180
gaagaagggg gtgacgtcca aggttgtgga ctacattgag aagctgatcg tgaagttcat 240
gtacgactcc tctctgcctc accaatacct cgccggcaac ttcgctcccg tcgccgacga 300
gacccctccc gtcaccgacc tccccgtcgt cggccatctc cctgattgct tgaatggaga 360
attcgtccgg gtgggcccca atcccaagtt tgccccggtc gccggatacc actggtttga 420
tggagatggc atggntcatg ggatgcggat 450

<210> 1197
<211> 351
<212> DNA
<213> Eucalyptus grandis

<400> 1197
ctccagccag cttctgtctc ttataaacac tagccccacc ccattcatta tccacttcac 60
tccaacccaa cagctatcgc actatcccac tgcagacgcc ctcccacgaa ccctttctct 120
tctgatcccc atcccaactc ctgccgcttc gacttcccca agccgtcctt ctcgtcgccg 180
ctgtccaacg ggagtagcgc catggcagcc cccgggaact tctccgacga ggaggtgcgc 240
ctcgcgtccc accacccaaa gaagcgcgcc gggaggaaga agttccggga gacgcgccac 300
cccgtgtacc ggggagtgcg gctgcgtgac tcgggcaagt gggtctgcga g 351

<210> 1198
<211> 359
<212> DNA
<213> Eucalyptus grandis

<400> 1198
agaacacctc agaatcaaca ccactcccca atttctctct ctaagatccc acacccaacc 60
gccaccctca atctctctct ttctctctct tcttcagtgt ctgccatggc tttggaggcc 120
ctcagctccc ccaccgctcc ctccgccccg ttccaattca tgaaggactc ctcccccgcc 180
gccgccgccg ccgcctcctc ctcctcctcc gcctacgacc tccccctcgc cgagccctgg 240
gccaagcgca agcgctccaa gcgcccccac aacccgccct ccgaggacga gtacctcgcc 300
ctctgcctca tcatgctcgc ccgcggcggc gccggccgga ccctcccccc gccgcctcc 359

<210> 1199
<211> 645
<212> DNA
<213> Eucalyptus grandis

<400> 1199
tcgactgaga gatcctagtg gaaatagaag atttcctgat accatcgatc cattcttctc 60
caatggctgc gaatttcgtc attccaacca aaatgaaggc ttgggtgtac cgtgagcacg 120
gagacgtcgc caacgtattg ggattggacc cggaactcaa ggtccctgaa ttgcaagaag 180
gccaagtgct ggttaaagtt cttgccgcgg cgctcaatcc aatcgacacc gcgagagtga 240
anggggggtta tcaagctccc ggcttttctc taccggccgt gccaggttac gatctcgccg 300
gcgttgtggt gaaggtgggc cgcgaagtaa aggagctcaa ggtcggggac gaggtatatg 360
gatttatgtt tcacgccaag aaagacggga cgctggctga gtacgcagcc gtggaagagt 420
cattcttggc tttgaagccc aagaagctgc gtttcgggga ggctgcttct ctgccgtggt 480
cattcagacc gctatggagg ccttgaaaga actggcctct ctcatggcaa gtcccttctt 540
cgtcttaagt ggtgctggtg gcgtcggcac actcataata cagctagctt aaggaagttt 600
tggtgcatca agagttccag ttcattcaac actgggaaac ctaga 645

<210> 1200

<211> 376
<212> DNA
<213> Eucalyptus grandis

<400> 1200
```
ttttttttt tttttgtgta ctggtgcact atgaattgtg agcattcaat caaactatat      60
atagacaaca ttcttcctta tataggcggg agcaactacg gngttgacag caaaatttac    120
aaagccagca gctagcacag gatgtcaaga ttcacctcca aaccgataaa gtcgacatgg    180
ctctattaat ccagccaaga tatagagccc cctccctctg ctcgattctg taattcccgt    240
gatactgctt cagcatatcg agcacagcac gagtaaccga tgcgtccact ggtagctgat    300
tgaaaccggc catttggaat ctggaccgcc atttgccgaa aagctcatgc ctttccatcc    360
tctcangccc atcaca                                                    376
```

<210> 1201
<211> 461
<212> DNA
<213> Eucalyptus grandis

<400> 1201
```
cgacaccgac cagggtgttc atgtattgtt tgtatacaac cccccagtgg aaagggccca     60
aaacacaagc caacatgcac atgtaatgtc tgtctgaccg taaagcgccg tttccgcacc    120
ttgatgctga ggcgcgaaaa gaaacagttg gagaaagaag gggaaggttc gcgcaagaag    180
ctgcaacatc agaacctatc acttgcagaa aaatcaccgg aagacgaccc ttcaaagtgc    240
aataacaaca atgcaaatgg cagcccaagc cagaaaaagg tgggcaatga tggttccgac    300
gacgaaatga acagggttaa aagctcgggt tcacctttta aaggtcagat cgatcttaat    360
attcagccag agcgcgagga ggagctctcg cctgggtcag attctggtgg tatgatgaag    420
ttgctacatg atgccaccca gaatatctca ggcagagggc t                        461
```

<210> 1202
<211> 447
<212> DNA
<213> Eucalyptus grandis

<400> 1202
```
ggaagtacga cgagatgatg atgaagaagg ggagcgacgg agggatagcg gaggtgaatc     60
ccacgccgaa gaagggggtg acgtccaagg ttgtggacta cattgagaag ctgatcgtga    120
agttcatgta cgactcctct ctgcctcacc aatacctcgc cggcaacttc gctcccgtcg    180
ccgacgagac ccctcccgtc accgacctcc ccgtcgtcgg ccatctccct gattgcttga    240
atggagaatt cgtccgggtg ggccccaatc ccaagtttgc cccggtcgcc ggataccact    300
ggtttgatgg agatggcatg gttcatggga tgcggataaa aaatggcaaa gctacttacg    360
tctctcgcta tgtgaggacg tcgaaactta agcaagagga gtactatggg ggagctaaat    420
ttatgaagat tggagacctt aaagggc                                        447
```

<210> 1203
<211> 454
<212> DNA
<213> Eucalyptus grandis

<400> 1203
```
catattttca tgctgctacg ccccgtcctt tggcctgcat ccatggccaa tcagccaccc     60
ggtgagcccc aaccaaatcc gccaccgcca ccgccaccag ccccagcgat ccaaatccct    120
gaccaaccac cgcataattc gccttcttct tcttcttctt cttcttcttc ttcttcttca    180
ttggccacca ccggtgatcg gggcggttcc tcgcctagac cgatgctttc tccgagcggg    240
tcgtcgccgc tggctcaatc cacagggagg cacccgcttt accgtggagt ccggtcccgc    300
agcgggaagt gggtctccga gatccgcgag ccccgcaaga ccacccgcat ttggcttggg    360
acatacccga atcccgagat ggccgccgcc gcctttgacg tggccgcgct ggctctgaaa    420
ggctccgacg ccgccctgaa cttcccccat gatg                                454
```

<210> 1204
<211> 352
<212> DNA
<213> Eucalyptus grandis

<400> 1204
gttttttacg catgtagaaa aagtcattga gtttgcctgt gctgcataca ttcattgctt 60
tagctgactg gggcctgaga gagtttgtgt atgttactgg cagacgccga aggcggaaag 120
gagaagaagg aagttaaaga aaggttcgcc ttcaagacga aatccgaggt tgagatacta 180
gatgacggat tcaagtggag gaagtacggg aagaagatgg tgaagaacag tccgaatccg 240
aggaactact atcggtgttc ggtggaaggc tgtcctgtga agaagagagt cgaacgggac 300
agagacgacc caaggtatgt aataacaaca tacgagggca tccataatca cc 352

<210> 1205
<211> 400
<212> DNA
<213> Eucalyptus grandis

<400> 1205
ccgaaatggc cgaacttgat gaatcttcca ctttggaact catcacgcag tatctcttag 60
aagactctat caacctcgct caactccaac cggtgaaaac agagaacctg tttctcgatc 120
caggaccaga ctcgccagat tcagatcatc ccacctggca agacctggag acaccaaatc 180
ttgagattaa agccgagccc atcaccttgg aatctccaga gtcggagttg ggtcgccgg 240
agaagaatca ggacgaggct ggctccgcgg ccaaggcaag ttacagaggg gttcggcgaa 300
gaccatgggg aaaatatgct gcggagatac gggacccgac acgtaaaggg agccgggtct 360
ggttagggac ctacgacacg gacgtagatg ctgccaaggc 400

<210> 1206
<211> 408
<212> DNA
<213> Eucalyptus grandis

<400> 1206
tttttctccc ttggtgcgtg atgtgtggag gcgccatcat ttccgacttc gtcgagngcg 60
gctcgaccgc cgccgccccg ggagctgccg ccccgagagg aagctgaccc ctcacgagct 120
ctggtccgag ctcgaccccg cctccgacct cctcagcctc gacggccccg tggcccaagg 180
ccacccccaac cctttctctc tcgtcgcaaa ccaactcaac caagtgatga agagtgaaga 240
gaagaacagt gaggaggcgg gtcacggaca cgtgtcggag acccagaaga gccagagcaa 300
tggccggagc cagagggctc gcaagaacgt gtacagaggg atccggcaga ggccgtgggg 360
caagtgggcc gccgagatca gggaccccca caagggcgtc cgcgtctg 408

<210> 1207
<211> 270
<212> DNA
<213> Eucalyptus grandis

<400> 1207
accgtgggat ccggcagcgc ccgtggggca agtgggcggc ggagatccgc gacccgagga 60
agggcgtccg ggtctggctc gggacgttca acaccgccga ggaggccgcg cgggcttacg 120
accgggaggc ccgtaagatc cgcggcaaga aggccaaggt gaatttcccc aacgaggacg 180
acgccttctc caccatcccg cgggctcacc agacccagca ccaccacccc caggtccccg 240
aactaccctc ctctgtatca acccaactgg 270

<210> 1208
<211> 339
<212> DNA

<213> Eucalyptus grandis

<400> 1208
ctttctgctg gacggaaacc actttggggc agctcgatcc ccgtgatgcg caactttggg 60
gggccaccag gtctccttgc gaggcaatga atgagggcgg gccattgaaa accataaagg 120
ataccaaaat cgataatatg cagtttcgtc gctttctcag atatgcttaa aatcatatgg 180
ttagaataga tgatcgcaaa cctctgaaat gggaaaactg agagataagc tcggtaagct 240
ttcaacattt cagtagcaga tttccttttg gagcctaact ccgtatagac ttgcgctcct 300
gtgcaatcca tgcgtgcctt aagggcttcg gcaaaagag 339

<210> 1209
<211> 405
<212> DNA
<213> Eucalyptus grandis

<400> 1209
aaaccctgca attcaggaaa agaaacccct ttttgatctc tctccatctg ctccgatggt 60
cggttcggag gggatgaatt cttgaaaaac aaggaggaac gatcgtctcc tttcttgggg 120
gggctgggga ttggggggag gaatggggc gcagcacaac tcaggacgaa cccggaatgg 180
gagacccatg tgatcctgaa cgtgtacgat ctcacccccg cgaacagcta caccgcctgg 240
tgcggcctgg gcatcttcca ttccggcatt caaggttctc tgtgtagttg cattcttcca 300
gaaagccttc aagtaactac tgttaagcca gagtatcatg acttctccga ggaagatggt 360
gctgaatctg tgtcgactgt gactaccgag atagatgacg ccgag 405

<210> 1210
<211> 521
<212> DNA
<213> Eucalyptus grandis

<400> 1210
tccttccttc tccttctcct tctccttcgt ctccttcaga catgtcgctc aaccaccccc 60
tctctacttc agacggcacc cccaacactc tctggtggac cactcacccc accatgttcc 120
gccagcacaa cctcctcctc aatttcaacc ccaccgacga cgacccgcaa gacgagggct 180
cgcccccgcc gccctacgtc ctccgagggg cgccgccacc ggcggagccg tcgcctgcag 240
agaaagagcc catgttcgag aagccgctga cgccgagcga cgtggggaag ctgaacaggc 300
tggtgatacc gaagcagcac gcggagaagc acttcccgct ggtgggcgag gcgacccagc 360
agctgagctt cgaggacgag tccgggaagt ggtggaggtt ccgctactcc tactggagca 420
gcagccagag ctacgtcctc accaagggct ggagccgctt cgtcaaggac aagcgcctcg 480
acgccgggga cgtggtcctc ttcaccgcga ccgcgccgac g 521

<210> 1211
<211> 537
<212> DNA
<213> Eucalyptus grandis

<400> 1211
ttcgaaaatc ccatttcctc tcgacctgtg tagcttgcaa ctcttggagt cttgatagag 60
aaggagagag aaggagaaag agtgggtgat gggtttcggg ggaagttgga gcgtgcccgc 120
gaaggcgtgc gactcgtgca agaccgcggc ggcggccgtg ttctgccgcg ccgacgcggc 180
gttcctgtgc ctcggctgcg acgcccgggt ccacggggcc gccaagctgt ccgcgcgcca 240
cgagcgggtg tgggtgtgcg aggtctgcga gcaggccccc gccgccgtca cctgcaaggc 300
ggacgccgcg gcgctctgcg tcacctgcga cgccgacatc cactccgcca accccctcgc 360
ccgccgccac gagcgggtgc ccgtggagcc cttcctcgac gccgccgagt ccatctccag 420
ggccgcctcc gccttcaact tcctcgccgt gcctaccaag accggcagcg ccgacacgtg 480
cggcggcggc ggtggcggct tcggcggctc gtgccagaat gaggagctgg aggaagc 537

<210> 1212

<211> 399
<212> DNA
<213> Eucalyptus grandis

<400> 1212
ccgaaacgcc ttttttcctca catttcccat ctccttttcc aagaagcgaa gcccgaaaag 60
tccaatcccc gttcttccaa accctgcaat tcaggaaaag aaacccccttt ttgatctctc 120
tccatctgct ccgatggtcg gttcggaggg gatgaattct tgaaaaacaa ggaggaacga 180
tcgtctcctt tcttgggggg gctggggatt gggggggagga atgggggcgc agcacaactc 240
caggacgaac ccggaatggg agacccatgt gatcctgaac gtgtacgatc tcaccccccgc 300
gaacagctac accgcctggt gcggcctggg catcttccat tccggcattc aagtgcatgg 360
taaaggaata tggctttgga gcgcacgact tttccagct 399

<210> 1213
<211> 283
<212> DNA
<213> Eucalyptus grandis

<400> 1213
ccccattttc ccgtttctcc catattcctc aagcactctc atttagggaa tgagtgctta 60
gaagccacct caagtttcaa atttttttcc tgcgcagttc tcaattcaaa tggcacgtag 120
ctcatgtaat cagaaactga ggaaaggttt atggtcgcct gaagaagacg agaaactgtt 180
caattatata agtagacatg ggttgggatg ctggagttcg gttccgaagc tagctggttt 240
gcagagatgt ggaaagagtt gcagattgag gtggatcaac tat 283

<210> 1214
<211> 324
<212> DNA
<213> Eucalyptus grandis

<400> 1214
ttttcaagaa gcacgcccac gtaacggggg aaatgctgag ggagaaccca tctgacggtt 60
ctttttgttg agggaaggga aagagagagg aggcagaggg aggaaggaat ccgcagcagc 120
agtcgtcgga ggaggaggac attttccagg tgaaccccaa gtagaattgc gatattggtt 180
tattcgtaat gggctgcgtc gcttcaagaa ttgatgaaga agagagggtt cgggcgtgca 240
aggagagaaa gaggctgatg aagcagttgc tggtgtttag ggaagaattt gctgatgccc 300
tgttggctta cttaagagcc ctga 324

<210> 1215
<211> 358
<212> DNA
<213> Eucalyptus grandis

<400> 1215
tttaatggcc ttgacgcagg ggaggggaga ttttctgaac ttggggagat ggtagaatag 60
ctgccgaggt gtcaactcat gtcagaattc tgactgatct ggggatcttg ctctcaaaga 120
ggatttctaa gagcagtatc tcaacttggc atacgttcag caactggaaa atagtaggtt 180
caggcttatg caactggaac aggagcttca acgagcacgc cagcagggta tatttgttag 240
ttctggaaat cctggggatc tcagtcataa catggctgcc attggcaatg gggccatggc 300
ctttgacacc gactatgccc ggtggctcga tgagcatcaa cggctgatca atgacctta 358

<210> 1216
<211> 329
<212> DNA
<213> Eucalyptus grandis

<400> 1216

ccgctgtggc aagagctgcc gcctccggtg gatcaattac ctgcggccgg acctcaagcg 60
gggcaacttc accgaagaag aggatgagat catcatcaaa ctgcacagcc ttcttggtaa 120
caaatggtcg ctcattgctg ggcgtttgcc ggggagaacg gacaacgaga tcaagaacta 180
ctggaacacg cacataagga ggaagctttt gaaccgaggc atcgatccgg ccactcacag 240
gctgatcaat gagcccgcac aagatcacca tgacgagccc accatttctt ttgctgctaa 300
ttctaaggag atcaaagaga tgaagaaca 329

<210> 1217
<211> 346
<212> DNA
<213> Eucalyptus grandis

<400> 1217
aagaacgtcg ccccatcaac tccacccggc gttttcaaga actcgcagag atcaagaact 60
cgagccggct tctgcagcgt gcaccgttat gccgtcggag tgcgccgacc gcaagcccgc 120
gaaggccccc cacggcggcc acctccacgc ggccggggcg ggggccgccg cgccgcagcc 180
gcaggagcag gagcacctcc cctgcccgcg ctgcgactcc accaacacca agttctgcta 240
ctacaacaac tacaacttct cccagccccg ccacttctgc aagtcctgcc gccgctactg 300
gacccacggc ggcaccctca gggacatccc cgtcggcggc ggcagc 346

<210> 1218
<211> 468
<212> DNA
<213> Eucalyptus grandis

<400> 1218
aaactgggat agatggcggg cagacgatga aaacgttgat agggagctta atgataatct 60
aaatgcacct tcataccctc ctcaccaacc tacgcaatct tatccaagag gaggctatag 120
agtatgtagt ggctgcaacc gtcaaatagg ctatggcaac tatttgggat gtatgggaac 180
tttcttccat ccggaatgct ttctctgtcg tgcttgcagg taccccattc aagaatatga 240
gttttcctta gcaggaaagg atccttatca ccagtcttgc ttcaaggagt tgacacatcc 300
aaaatgtgaa gtttgccatc aatttatccc aacaaatgga gttggtttga ttgagtatag 360
atgccatcct ttctggtccc agaaagtact gtccgtcgca tgagcttgac aaacacagct 420
ccgatggttg tagttgccaa cggtttggag gcatgggaac accaccat 468

<210> 1219
<211> 162
<212> DNA
<213> Eucalyptus grandis

<400> 1219
tgaggtagat attcttgacg atggttatcg ctggcgcaag tatgggcaga aagttgtgaa 60
gggaaacccg aacccaagga gttactacaa gtgcacaagt cctggctgca cggttaggaa 120
gcacgtagag agggcgtcac atgaccttaa gtcagtaatt ac 162

<210> 1220
<211> 354
<212> DNA
<213> Eucalyptus grandis

<400> 1220
gcctggcatc acttctgaaa gaagatgatg ggtacctgaa tattctttgt ccatgatgaa 60
agcacaggga agtcggcagt aaatgtaatt gatgcgaaaa acatgtcatc tgatcctgtt 120
gctgttgttg aattacccca tagggttcct tatggcttcc atgccttctt cgtgactgag 180
gaacaacttc aggaactggc taagctgtag gtctctacat gcacgaattg ttgggaatgc 240
agatgttgcg aggggaggca tatctctgga aagctgctac agttgatcta atagtttgat 300
atttacatgg acagacatct ttatgctaaa tatagtggaa atataaagta tggt 354

<210> 1221
<211> 310
<212> DNA
<213> Eucalyptus grandis

<400> 1221
gcggaggagg ggctgagtcg gaaattgggg aactcggttg cttgcgaagg tagggaccgg 60
gtcgaaagat gcgaggtgtt cgggaagtgg agggcccgca tggggatggc tgggttcgag 120
ctgaagccac tgggtcaaca cgtggccgaa tcaatgaagg cgaggctcga aagtgggaac 180
cgggtcaacc cgggattcac ggtgaaagaa gagaatggtg ggatttgctt cggctggctc 240
ggccgaacac tcaccgtcgc atccgcctgg cgttaagctc cactcgctcc ccctctctcc 300
cccctgtgca 310

<210> 1222
<211> 315
<212> DNA
<213> Eucalyptus grandis

<400> 1222
atttcagatc ccatcatgna tgcatgactt tgccattaca gagaattatg caattttcat 60
ggatcttcct ctttatttca ggcccaagga aatggttana gataacaagc taatatttac 120
atttgataaa accaaaaaat ctcgctttgg ggtacttcca cgatatgcaa agaacgagct 180
tcaaatcaga tggtttgagc ttccaaactg cttcattttt cacaatgcca atgcatggga 240
ggaggaagat gaagttgttt tggttacatg ccgtcttgag aatcttgatc tggacatggt 300
cagtgggact gtcaa 315

<210> 1223
<211> 393
<212> DNA
<213> Eucalyptus grandis

<400> 1223
gcttaatcct caaagaaagt gaagctaccc ttcgtgaagc tcttcggaac atgatgcaga 60
atggcaaatc gaaagtgcca aatgagggga aggcccacgg caagaagcaa ggcaggcgca 120
agagggatgt ggtcgacttg agaactcttt tgacactttg tgcacaagct gttactatgg 180
atgatcgagg aagcgcaggt gagctgctca agcagatcag aaggcatgcg tctcccacag 240
gggacgggat gcaaaggatg gcacactatt ttgcgaatgg tctgcaggca cgccttgccg 300
ggtcaggctc tcaaattttt aaggctctca tggctaggcc aagatcggct gttgatgtct 360
tgaagggtta tcatctcctc ctcacaattt tgt 393

<210> 1224
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 1224
gagaaatcct catcatccgt caaggcaatc tcggatcctc aagccagcca ctgnagaagt 60
gttcgtagca tctcttctca aagatctagc cgagatcccc ggccttcttc aagcagctta 120
cgatctttac aagtgggacc ttcagaagag agactgccat cagtcgcaga tggttactca 180
agacattcga ggccactttc tgccatagga tggcgtaata atgatggggc tcggagatca 240
agggtatcta ctgaaagatt tcggtcgttt cctgatgaag gaagtggccg tgatcaatta 300
gaatatgagg gattcatgat tgcggatcgc ccaggtt 337

<210> 1225
<211> 226
<212> DNA

<213> Eucalyptus grandis

<400> 1225
tgttggcacc atgtacacac acagtgtggt aaagcaggct ttgggatgct caagcaagag 60
aatctgagca atgaactaga tagggtcaaa aaggagaacg acaacttgca gattcagctc 120
aggcacctga gagngaagac ataacatcac tgaaccacag agagctgata atcctagaag 180
acactcttga aaacggcctc ggatgtgtcc gagaccagaa ggacga 226

<210> 1226
<211> 415
<212> DNA
<213> Eucalyptus grandis

<400> 1226
cggaccgcca ggactgcacg gtggcgtgcc ggatgttcgg gccggggtgc ttcgggggcg 60
agcccttctt cgtggcgagg gatccggacg attcggaggc ggaggaggac gacggctacg 120
tggtgagtta cgtgcacgac gagcgcaaag gggagtcgag gttcctggtg atggatgcca 180
agtcgccgga gctggacatc gtggcctccg tccggctacc caggcgggtg ccgtacgggt 240
tccacgggct attcgtgagg gatagccacc tcaaaatgtc ttagcgttca tgggcgatga 300
tgcgacgtgg aggtacagag attggggtct tttattacag gattttacgt agtctagagc 360
atgatacaaa gctatatccc accaacatgc cgcagttaaa ttaggtgggg tagtt 415

<210> 1227
<211> 389
<212> DNA
<213> Eucalyptus grandis

<400> 1227
acattcatgg ggatatgcag cctccaacat tcatctcagc aggcggagga ggcgctgtcc 60
caggggctag aacagctcca acagtcactc gtcgacacca ttgccggcgg gcccagcatc 120
gaaggaatgc aacagatggc aatcgccttg ggcaaattaa ccaatctcga aggctttgtt 180
cgacaagctg ataacttgng gcaacatacc cttcatcact gncgccggat actgagagtt 240
cgacaagccg cacgcgattt tttggtgatc ggagagtatt atggtcgact acgagcattg 300
agtactctat gggcgtctcg tcctcgaggg tgcatgatgg atgatgataa ctcacgccaa 360
acaacaacgg acctgcaaat tgttcaggt 389

<210> 1228
<211> 435
<212> DNA
<213> Eucalyptus grandis

<400> 1228
cttcaccggc actaggaatc agggcttctt ggagggattt gggttctcca cctcgtcgtc 60
cacgttgtcg gaaactgcga accgggggga gaactccggg agtgccgggg tgttcagatt 120
gaactcgcgg tgcccctgac tttgcgtgag ttgacgccac gccctccgag acgctcaccc 180
tgttggcagt caaggcgacg gcgacgcgac ggcggctgag gagacaggag ttggggcctc 240
atagtggtac ctcgtgccca ccgagagctt ggccggtagg ggagctcttg tggcagatcg 300
agcactcgtg gaccttcccg gacataccgg aggaggtggt cgtcgcggag gtcgaggtgg 360
ccggctgttc gtccgcaccg gcgaagagaa agtgtgttgg tatagaggcg agaggagaga 420
gaagagagag aagaa 435

<210> 1229
<211> 252
<212> DNA
<213> Eucalyptus grandis

<400> 1229

gcaatccaga cccagatgcg gaagtgatag ccttgtcgcc gaagacgctc atggcgacca 60
accgattcat atgcgagatc tgcaacaaag ggtttcaaag ggaccagaac ctccagctcc 120
acaggagagg gcacaacctg ccttggaagc tgaagcaaag accaaaggat gaaccgataa 180
ggaagaaggt gtacgtttgc cccgagccga catgcgtgca ccatgacgcg ttgagagcgc 240
tcggtgatct ca 252

<210> 1230
<211> 326
<212> DNA
<213> Eucalyptus grandis

<400> 1230
catccatgcc cgagaccgga aacgccgcaa cggccgcagc tccgatcccc atgccgggga 60
atttcccata ccgcgcccag gagatccagt aggggggcg tccgnaagcg gccctggagg 120
gggtatgcgg ccgagatccg agacccggag aagaagaccc gantctggct cggcaccttc 180
gacaccgccg aggaagcagc ccgcgcctac gacgcggccg cccgagaatt ccgcggctcc 240
aatgccaaga ctaacttccc cctcggnttc cgcgcccccc aggtcatggc caagaccaac 300
tcggtagatg catcagcgag tagcgg 326

<210> 1231
<211> 424
<212> DNA
<213> Eucalyptus grandis

<400> 1231
cttcctacct cgtcagccct tcggctgttg gatcaggttc cgaaactgtg ttcctagact 60
tgagccttgg ttgcagcaat gatgagtcca gcgggaggga ttctgtagga gtcgccttct 120
cgagcaccag cgaatgtagc aatgagcccg aatctcatcc ggcagctgca ggaccaacca 180
cttcaagagt cttttcttgc aattactgtc aaaggaagtt tttcagctca caggcactcg 240
gtggccatca gaacgcgcac aagagagaga ggaccctggc aaagcgggca atgaggatgg 300
gcatgttttc ttcacagaga tattccagct tggcgtcttt gcctttgcac gggtctccca 360
ctgtcaggga tctggggatc aaagcgcatt cttccgtgca ccaggtgcac caaggcatgt 420
tgca 424

<210> 1232
<211> 321
<212> DNA
<213> Eucalyptus grandis

<400> 1232
atgatgatga agaaggggag cgacggaggg atagcggagg tgaatcccac gccgaagaag 60
ggggtgacgt ccaaggttgt ggactacatt gagaagctga tcgtgaagtt catgtacgac 120
tcctctctgc ctcaccaata cctcgccggc aacttcgctc ccgtcgccga cgagacccct 180
cccgtcaccg acctccccgt cgtcggccat ctccctgatt gcttgaatgg agaattcgtc 240
cgggtgggcc ccaatcccaa gtttgccccg gtcgccggat accactggtt tgatggagat 300
ggcatggttc atgggatgcg g 321

<210> 1233
<211> 508
<212> DNA
<213> Eucalyptus grandis

<400> 1233
gacgagatga tnatgaagaa ggggagcgac ggagggatag cggaggtgaa tcccacgccg 60
aagaaggggg tgacgtccaa ggttgtggac tacattgaga agctgatcgt gaagttcatg 120
tacgactcct ctctgcctca ccaatacctc gccggcaact tcgctcccgt cgccgacgag 180
acccctcccg tcaccgacct ccccgtcgtc ggccatctcc ctgattgctt gaatggagaa 240

ttcgtccggg tgggccccaa tcccaagttt gccccggtcg ccggatacca ctggtttgat 300
ggagatggca tggttcatgg gatgcggata aaaaatggca aagctactta cgtctctcgc 360
tatgtgagga cgtcgaaact taagcaagag gagtactatg gggagctaa atttatgaag 420
attggagacc ttaaagggct tttggtttta ctcatggtca atatgcaaat gctgagagca 480
aaactgaaaa tactagatgt ttcatatg 508

<210> 1234
<211> 503
<212> DNA
<213> Eucalyptus grandis

<400> 1234
gcccgatgtc cccctcccct cccccgccgg agacgtgacc gatgccgagt ggttctacgt 60
catgtccttg acccgctctt tctcggcggg agacggtatt cccgggaagg ccctcagcac 120
ggggtccttg gtctggctga ccggtgctcg cgagcttgag tcgtacaagt gcgaccgggc 180
caaggaggcc gagctccatg gcatccgcac catggtttgc atcccgactg gtgatggagt 240
ccttgaattg ggtcttgcg atgtgatccc tgaaaactgg ggccttgttc aacgagccaa 300
gtctcttttc ggctccgatc tgctccttcc caagcacccg ccaccgccac cacctccgtt 360
ccagctccac catgaccata gcgacatttc tttcgctgac attggaataa ttgcgggcgt 420
tcaagagaat gatttcgctc ctcacgatga ccacgagaag aaggtcaaga agaagcagcc 480
gctggtggaa ggagctggcg gga 503

<210> 1235
<211> 367
<212> DNA
<213> Eucalyptus grandis

<400> 1235
aaaaagtata tatacctcgg cctatttgat agtgaagtag aggcagcaag ggcgtatgac 60
aaggcagcta tcaaatgtaa tggaagagag gctgtgacca actttgaacc tagtacgtac 120
gatggagaga tgattgcaaa agccagcaat gaaaatagca tctatggtga ccatggtctt 180
gatctcaatc tcgggatatc agcttcttcc aggggaatgg tggaaacctt agagccctcg 240
gacgacatgc gtcagggaag tagtttaagg gtaggaaact ctgctgcatc ctggggtgat 300
ccatctgttg aaggtttatc gatgacatct ggacaacctc ctccttgacg ggtgtttatc 360
ctagcgt 367

<210> 1236
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 1236
ctccgccgtg gcggtcgccg cgacaacagc aacaacctcc tcctcctcca cctcctcgac 60
cgggtcggat ccggcgctag aaccgagcaa aagaagcgag gattgcactt ctcaaaaggg 120
cccggggaag tccccgagcc cgggcgccca cccggaggag ccggccggca agaggcacaa 180
ggccgggggc tccggcgagc acccgacgta ccgtggggtc cgaatgcgga actggggcaa 240
gtgggtgtcc gagatccggg agccgaggaa gaagtcgaga atctggctcg ggacgtaccc 300
cacggcggag atggccgccc gggcccacga cgtggcggca ttggccataa agggcagctc 360

<210> 1237
<211> 539
<212> DNA
<213> Eucalyptus grandis

<400> 1237
tctctctttc tctctcctct gtgattgcag atcaggctcc cacgccgttc cattcgcgca 60
tctccgacct cctctctcca cgcggccact gtcccgtcgc gcgaattcac cccgccgtcg 120

taggagaccg catcctacgc cgccgnggcg nanggcggcg ccacgaggag atgccagggg 180
aaggaatcaa ttacttcctc gttactggcc caggataaca gatcaagagc tacaacaaat 240
ctctggagag tatccttttg ttctatgtgc tttgattgat ttatagcaac tcctagaaag 300
gtgaattatc gcgcgtcaat agaacagggt taggatttca atagatagga tgaaaagccg 360
ggaaggttca gtttcacctc tgctactaat tagcattcat gatcctattc cttaactttt 420
ataagctcaa actctgtaat cactcctctg tttgagaaaa tgttgagtgc tagtgatgca 480
ggtaaaattg gacgtttagt gctgccaaga aaatgtgccg aggcctattt tccggctat 539

<210> 1238
<211> 520
<212> DNA
<213> Eucalyptus grandis

<400> 1238
tctggctgtc ctgatagctt tgatgaaggc agatctggaa tttttgaatt caaacctcta 60
gctacatcaa acttggtccc cacagaggca aagcaccaag gaagtgaaca ggctgtgaaa 120
gtttcaggtc aacgtcattc tcaaccattt gcatcactgt cttcagttca gagtgatttg 180
gctgtctcat cgaaggaatt gtgtctatcg gtacccactc aagcggttcg ctcaggggct 240
agtccacttg ctgaagctga tcctgatgga ttgttaggta ggaaagagca gcccaataat 300
gtgatgcagg tgacacaact ggataataaa gggaatggcc cttcagtcat gactgagaga 360
ctctctgacg atggatataa ctggagaaaa tatggacaga agcatgttaa gggctgtgaa 420
tttccacgca gctattacaa atgtacctat cctaattgtg aggtgaaaaa gcttttcgaa 480
cgtgctcctg atggacatat tacagagatt atctacaaag 520

<210> 1239
<211> 489
<212> DNA
<213> Eucalyptus grandis

<400> 1239
ctcagatgtg ggacaagctg agggagatta aaaattcatt gcttggacct gaatctgata 60
tcagtgatag ctgcaattgt tgcttaaata gtgggagcca ccaattcacg tcaactgggc 120
agtgggatgt acgtcagatg atagagatga tccctaaaat tggatttgaa ggacatgctg 180
attttctgtg cacaagcagt tgccgaagct gacatgccta agacagctgc tttgatggag 240
gtgttagaga ggatggtgtc tgtctcagga gatccaatcc aacggttggg tgcttactta 300
ttagaagggc ttagagcgag gttggaatca tctgggagca taatctacag aaagctcaag 360
tgcaaagagc ccactggctc ggaattgatg tcttacatgt ccatcctcta tcagatttgt 420
ccatactgga agtttgccta cgagtcggca aatgttgtaa ttggggaagc tataaagtac 480
gagtcaaga 489

<210> 1240
<211> 306
<212> DNA
<213> Eucalyptus grandis

<400> 1240
gccaacgctc accnccttgg cagctgaggc agcggcggcg gccgaggagg cagcagtgag 60
ggcctcgtag tggcaccgct tgtgcccgcc gagagcgtgg ccggtgggga agctcttgtg 120
gcagatcgcc ggaggaggtg gttgccgcgg aggtctaggt ggccggttgt tcgtccgcgc 180
cggcgaagag aaagtgtgct ggggagagag agagcgtgca gagaggtaga agagagagaa 240
gagagaggag agagaacgtg aaaggaggca gaagagagag agtgcagcga ggggagagag 300
aggaca 306

<210> 1241
<211> 366
<212> DNA
<213> Eucalyptus grandis

<400> 1241
gagcattttc ttcatcctta cccaaaggat tctgacaaaa tcctgcttgc aaggcagaca 60
ggcttgacaa gaagtcaggt ctcgaattgg ttcatcaatg caagagtgcg tctctggaaa 120
cctatggtcg aagaaatgta caaagaagag attggggatg cggaaatgga ctccaactca 180
tcctccgaca cagccaagcc aaaaacagga gatatcaagt cctccatgga ggaccgggtg 240
gaagaagtgc aacagagttc aacagctaca cagagatgca gctcaggcca gctcatggac 300
tcatcattcg accggactcc agatgtcgaa atggcaggcc actctgtggg attcaactac 360
ctgaac 366

<210> 1242
<211> 340
<212> DNA
<213> Eucalyptus grandis

<400> 1242
cttcggcctc gtcgaccacc ggaatggcat gggcgtcgcg aacgccggcc tcgtgtactt 60
cgacggccac ctcctcgcga tgtccgagga cgacctcccc taccacgtgc gcgtcacgcg 120
ctccggcgac ctcgagaccg tcggccgcta cgacttcgcc ggccagctcg actctccgat 180
gatcgcccac ccgaagatcg acccggcttc cggcgagatg ttcgccctcg tcaagtactt 240
ccgattctcc aaggacggcg agaagtcccc cgacgtcgag atccccctgg ctgagccgac 300
catgatgcac gatttcgcat accgaacgct ttgtcgtgat 340

<210> 1243
<211> 684
<212> DNA
<213> Eucalyptus grandis

<400> 1243
ctctctctcc ctctcccccc taacgtttct ggccctcttc tttgtctgga caaaaagatg 60
ggaagaaagt gctctcgctg tgggaacata ggccataact caaggacttg cacaactttc 120
atgggggcag caagttcttg tgggctcaag ctcttcggtg ttcaacttga cctatcttct 180
tcttctcctc cttcatcatc agcatctagt ggttctgctc atccttattc acttgtcata 240
aagaagagcc tcagcatgga tcgtctgtct tcttcctcgg cctcctcctc gtctccatct 300
tcatccctct cctcgccaag agttcttgct gatgaacact gcaataagac ctccctcgga 360
tatctctctg atggcctcgc cgccagatcc caggagaaaa ggaaaggagt tccatggacg 420
gaagaagagc atcggacatt cttaatgggg ctagagaaga tggggaaagg cgattggaga 480
ggcatctcca ggaactatgt gaccacgaga accccaaccc aagtcgcgag tcatgcgcaa 540
aaattctttc tccggcaggc cagtcttaat aagaagaagc ggcggtccag cctcttcgac 600
atgggtagtt ttcggtaacc atgtcacaaa tccatacatt aattgggcac caaactcacc 660
gaaagaaaac tcagagtctt ttca 684

<210> 1244
<211> 329
<212> DNA
<213> Eucalyptus grandis

<400> 1244
cggccccgca gcttggtcgg cgtacctcag aaatggctca aatggtttgt ggttcctgcc 60
aaagattgat ttcatatcag ccaggagcca aatatgtgca atgcttatgc tgcaagacga 120
ttaactttgt gttggaagag catctggttg gacaagttaa gtgtggtaca tgtgcgatgt 180
tgcttatgta cccgtatggc gctccagcag tcaagtgttc ggcctgccgt tctgtgacag 240
aaattgggga gcacaacaaa aggaccccat gggcggtaca gcaagggaga cttccccctc 300
ccagtacagt tccttgatgg gcacacgca 329

<210> 1245
<211> 383

<212> DNA
<213> Eucalyptus grandis

<400> 1245
ctccaacgcg cgccttcttc tcctggactc ctctgagctc tctccatctc ctccggctcg 60
gcgcggccgt cgctcgacgg cgacgactcg agggtttcca tataattcac ttgaaagaag 120
ctgcagaatg ccgtggaaaa caggacttac cggctctaaa acggaagaag ataaggctct 180
gcagctttgt cgggagagaa aaaaatctgt taggcaagct gttgatggtt ggggctccct 240
tgtgtatgca catttcatgt ttgtgcaatc attaaggaac gtagggacag ctctcacaaa 300
gttctttgaa acagaatctc caaatgggtc tccctcgtat gcctcaatga gtacaacacc 360
tgagccaatc gcattaaccg aga 383

<210> 1246
<211> 380
<212> DNA
<213> Eucalyptus grandis

<400> 1246
gctcttcgaa cactttctcc acccctaccc gaaggattcg gacaaagtca tgctggccaa 60
acagacaggg ctcactagaa gccaggtgtc gaattggttt ataaatgctc gagttcggct 120
ttggaagccg atggtggagg agatgtacac ggaggaaatc aaggagcaag aacagaatgg 180
gggaggagca gaggaaaaac caagcaagag tgaacgcgag gactcagcat ccaagtcctc 240
tggcctccag gacaaggccc ccaactccaa tgagaacagc accaagagct tcaaaccaaa 300
ggagatcacc tcgaggaacc acgacacccc tgccatctct actaattcgg cttcctccat 360
cgggggaaac gtccgcagca 380

<210> 1247
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 1247
gcagccgagt cgagcaagaa actaacgaac gcccggtgtc attaggattc ataatccaca 60
agaacaaaag aaaaaaggat catgggaaga tccccatgtt gcgaaggcaa tggcctgaag 120
aaagggccct ggtcttctga ggaagacaag aagctccttg attttatcca gcagcacggc 180
catgggagct ggatctctct ccctaaacgt gcaggtctta atagatgtgg caagagctgc 240
agattgagat ggataaacta cttgtggccg gacatcaaga gagggagttt ctccccggaa 300
gaagaacaaa ccatcttgca tctccactcc gtgctcggaa acaaatggtc ggcgatcgca 360

<210> 1248
<211> 351
<212> DNA
<213> Eucalyptus grandis

<400> 1248
tttttttttt tttttttttg aaagtaaacg aatttaagat taaattaaat atggggaacc 60
cagctagcta gtcaagtttg aaaatgttgt gccaatttct gtttctttaa tacaaagttg 120
gggaaaacaa aatttacatc cgctcaaatt tgaggtaaaa aaaaacccta tctcctccgg 180
ctttgacttg tcagccgccc tcaggttgac ttgaatacca ggttcatcgc accggcgggc 240
acaatctcct gcgacgcggg ctgggagtga cgatgctccc cctcgtacgt cacgatcagc 300
atcgttggat cgtcgggggc cctctccacg tgtttcctcg cggggcaccc t 351

<210> 1249
<211> 419
<212> DNA
<213> Eucalyptus grandis

<400> 1249
gacgagatga tgatgaagaa ggggagcgac ggagggatag cggaggtgaa tcccacgccg 60
aagaaggggg tgacgtccaa ggttgtggac tacattgaga agctgatcgt gaagttcatg 120
tacgactcct ctctgcctca ccaatacctc gccggcaact tcgctcccgt cgccgacgag 180
acccctcccg tcaccgacct ccccgtcgtc ggccatctcc ctgattgctt gaatggagaa 240
ttcgtccggg tgggccccaa tcccaagttt gccccggtcg ccggatacca ctggtttgat 300
ggagatggca tggttcatgg gatgcggata aaaaatggca aagctactta cgtctctcgc 360
tatgtgagga cgtcgaaact taagcaagag gagtactatg gggagctaa atttatgaa 419

<210> 1250
<211> 632
<212> DNA
<213> Eucalyptus grandis

<400> 1250
ccccccgcga cgaccggacg gccagtccag attccctcgc cgtcgccgcc gtgaaacgcc 60
ggagcgcacg gcgcacggac ccgacggacg ccgtcctccg ccaccgtcgc cgaggttgag 120
agccatgtcg agcgacgcgc gcgccgcctc cggcgccacc gccgccggcg ccggggagtt 180
catgctgttc ggggtcaggg tggtggtggt ggaccccatg aggaagagcg tgagcctgaa 240
caacctgtcg gagtacgagc agccccagga cgcggccccc ggcggcggcg gcgtcggcaa 300
ggacgacgcg ggagcggccg cctccggcta cgcgtccgcc gacgaagccg tcgcgcacgg 360
ctcgaaaggc gggccggccg cgagcgcaag cgaggagtcc cgtggacgga ggatgaacac 420
cggctgttcc tgctcgggct acagaaagta ggaaagggcg attggagagg catttcgaag 480
aactttgtga agactcggac gccgacccag gtcgcgagtc atgcccaaaa atactttctc 540
cgccggagca accttaatcg gccgtccgcc gccggactta gccttgtttg acatcaccac 600
ccgatacggt cactggttgg tacaatgatg ga 632

<210> 1251
<211> 202
<212> DNA
<213> Eucalyptus grandis

<400> 1251
atgcgaaaca tgctcaaaca cccccaacat catgggaagg tggaagtggg gctgattcgg 60
aggttaacat gttgaaggat tacgcttcag aggactggat tacaggtgtt gaccgcttcc 120
ggttgagctt ggttgaattt cttgataagt tgaataagta tgcggagtcc tctgttcata 180
tgtacgtgtc ccttgaaaag gc 202

<210> 1252
<211> 378
<212> DNA
<213> Eucalyptus grandis

<400> 1252
gagataaaga actactggaa tacaagaatt aagcgactgc aacgcactgg catgcctata 60
tatccaactg aggtttgtct gcaagtgtca agtgagaatc aagaaactca taacatgggt 120
aacttgcata ctgcaggcga agataattgt gatctctcac aggcagatcc actcgagatc 180
ccagaggtgg atttagaaa actggaactg catcttggtt tctcgtcttt ttggtctaca 240
cttctggacg ttcctccttg tggctttggg agagaggcaa tgtgtctatc tgatgcttac 300
tgccttccat ttccatcaag ccggtctcct aaacgccttc ggggttctga gaccccattt 360
cctgtcttgg atgctgga 378

<210> 1253
<211> 388
<212> DNA
<213> Eucalyptus grandis

<400> 1253
gtgattttag tgctcgatac tttgaaaagg gcatcaatac agtcaaacga gataaaaaga 60
cataacatgc aaaactcaat acatgattct cagaaaagac catcatcttt aattcagtca 120
aacgaggctg tttttacgca aacttcggtc ataagctgtg ccttgcaatc gtttgttaaa 180
cctccaaatg ctaaggtcac ggtcacattc ctctctgatc tttgagcagc tcatggcacc 240
aacgtccaag gaacatttct taaaaaggat gatccaaaag ttactgctct gattcaacaa 300
gccgagctgc tcagttccct tgcggtgaaa gtcaatgcag ataacatgga ccagagtctt 360
gaaaatgctt ggaagggtct ccaggaat 388

<210> 1254
<211> 380
<212> DNA
<213> Eucalyptus grandis

<400> 1254
cgacgatcgg gtcgggtcgg ttcgggcgtc gccatgacgc ggcggtgctc ccactgcagc 60
cacaacggcc acaactcccg gacctgcccc gcccgcggcg gcggcggcgg cggcggggga 120
ggcggcgtga ggctcttctg ggtgaggctg acggacggct cgatcatcaa gaagagcgcc 180
agcaccagca gcctctcgtc ccaccacctc ctcccccct cctcctcgcc gtcgccttcg 240
ccttcgccgt cgccgtcgcc ggccgcgggc tcgccgccgt cgggcgacca ccactacgac 300
caccaccacc accagcagcg cgacccggac gggtacttgt ccgacgatcc cgcgcaaggg 360
gcctgcgcgt ccgatcgccg 380

<210> 1255
<211> 350
<212> DNA
<213> Eucalyptus grandis

<400> 1255
ccctcatacg gaaatgggta ttctcctcca caatatggca atggacctgc atatcaccct 60
atgccaacat actacccgat gggctacagg atctgtgctg gatgcaatac agagattggt 120
catggacggt tttgagttg catgaatgct gtttggcatc ctgaatgttt ctgctgccgt 180
gcttgcaccc tgccaatttc tgattatgag ttttctttat caggcaatta tccttaccat 240
aaatcttgct acaaggaaca ctaccaccca aagtgtgatg tctgcagtca ctttatccct 300
acaaaccttg ccggtcttat tgagtacagg gcgcatccct tttggagtca 350

<210> 1256
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 1256
tctcaatggg attagcggaa agaagaacca ccagagggag gattcagaat ttgaagatga 60
gaggagtaac aagcagacag cagtgtatgt tgatgacacc gagctatccg agatgatgga 120
taaattgttg gtctgtcata ttaaaggcaa gagtcgagat tcaaatgctg atgaatcctc 180
taaaaaagaa gtaagtaaat ctttacagca gaatagacag acacacactg ctgatggtgg 240
gaagtttcat aataagaaac caaccccaac cagcaatatg acagagatgg tggatctcag 300
aactttgttg atcctttgtg cacaagctgt ctcttctgac gatcgaagga ctgctaatga 360
ctatctaagg cagattc 377

<210> 1257
<211> 651
<212> DNA
<213> Eucalyptus grandis

<400> 1257
actcgtggcg ctgtttcgag ctttctagct tccggaggag gagggctggt gttgagcgaa 60

acttggagag gtcatgaatt cgacaaccac tcagtttgtg tcctctagaa ggatggggat 120
gtatgacccg attcaccaaa ttggaatgtg ggacgagaac ttcaagcaga atggaaatcc 180
taatgcgccg ccagctctga tcatacctat gcacgcgaat ttggacaacc agtcggagga 240
tacttctcat ggatcacagg atactgctgg caagtatgag caagaaacat cgaaacctta 300
tgataaggtg caaagacgtc ttgcccaaaa ccgtgaggct gcgcgcaaaa gccgtctgcg 360
gaaaaaggct tatgttcagc agctagaagc aagtcgtttg aagcttatgc agttagaaca 420
agaggttgac cgagctaggc aacagggtgt gtacatggct tcaggagtag attcagctta 480
tccaggatat ggtggatgtt taaattcagg aatcgttgca tttgagatgg agtacgggca 540
ctggattgat gaacagaata gacaaatatg tgagctgagg gctgctttga atgatcatag 600
aactgacgta gagcttcgca tcctcgtgga aagtggcatg aaccactatt c 651

<210> 1258
<211> 311
<212> DNA
<213> Eucalyptus grandis

<400> 1258
gacgagatga tgatgaagaa ggggagcgac ggagggatag cggaggtgaa tcccacgccg 60
agaagggggt gacgtccaag gttgtggact acattgagaa gctgatcgtg aagttcatgt 120
acgactcctc tctgcctcac caatacctcg ccggcaactt cgctcccgtc gccgacgaga 180
cccctcccgt caccgacctc cccgtcgtcg gccatctccc tgattgcttg aatggagaat 240
tcgtccgggt gggccccaat cccaagtttg ccccggtcgc cggataccac tggtttgatg 300
gagatggcat g 311

<210> 1259
<211> 588
<212> DNA
<213> Eucalyptus grandis

<400> 1259
cctagctgaa actattactc ccactggttc tctctctctc tctctctctc tctctcaaac 60
atggctgaat tagattattg ccaaaccaaa agcagccccg gcgctgccgc cacgcgctta 120
aagctcttcg gcttcaacgt ctccgatgag gaagactcag ccgtcagcga ccccattact 180
gttggcgcga acggcggcgg cggcggcgga ggcggcaagg ccacgccgtc gggctcgccg 240
gaaggcagcg tcccggtggg gggcggcggc gagcggaagt acgagtgcca gtactgctgc 300
agggaattcg ccaactcgca ggccctgggg ggccaccaga acgcgcacaa gaaggagagg 360
cagcagctca agcgcgccca gctgcacgcc agccggaacg ccgccgtgtc gtcgctcgtc 420
cggaacccca tcatctcggc cttcgctacg ccgccgcacc tgctggccac cgtggggccg 480
gtggtggtga cgggggcggc gcccacctcc ccgtcctggg tttacgttcc gcgtggcgcc 540
ccgcccttcc aagtgtcgca cggctgcgtg ttcacgaccg gccaggga 588

<210> 1260
<211> 620
<212> DNA
<213> Eucalyptus grandis

<400> 1260
tgaaaatcgt attgtcctct ttcgtcttga tgcgttgaag aactaaaaga aggagccaca 60
aacactgagg aataaacctt agaactacca aataaggaga gcccacggga ctcgttttct 120
tgtatgccac aacggtccga accttctttt ggtgaggccg ggagcaaac tatcgtttct 180
tcgacgaggg tattgacatc cttcgaacca cctgcactcc tcctgttccg atccggccat 240
ggatgattga gaaaagagtt gagaactgat gacgatgacg atcttgcttg ttgctgcttc 300
atatttgcat gctggagaat ctggtcgact ttcggatgct gccctacgaa gctgcagttc 360
acctcggggt gattaccgat cagctggtgg cacgggaagt tcgtcttcgc gttcctccct 420
cggagaagcc aggccgcgct gtcgtaagcc aaggcggctt cctcggcgct attgaaagtg 480
cccagccaca gcctcagctt cagcgtggag tccttgatct cggcgaccca tcttcccgaa 540
ggcctttgtc tcaccccgag aaaccttctc attgcatcat caccettcgc tcttctcttg 600

atgttcttcc tcatggctat 620

<210> 1261
<211> 562
<212> DNA
<213> Eucalyptus grandis

<400> 1261
gataaatcgt cttcaccagt acctccgcag gatcagacgg gtgttcatgt ttatcatcct 60
gattgggctg ctatgcatgc atactatggt ccaagagttg ctcttccgcc ttattataat 120
tctgctgtat catctggtca tggtcctcat ccctacatgt gggggccacc acagcctatg 180
atgccaccat atgggccacc ttatgctgca atatactcac atggaggtgt ttatggacat 240
cctgcaattc ctcttactcc gactcccttg gctgcggaaa ctcctaaaaa gtcatctgct 300
aattctgata atggactggt gaagaagttg aaaagttttg aagggcttgc aatgtcaata 360
ggcagtgggg gggatgcaga cagtgctgac gatgggactg ataaaaggtc atcacagagt 420
gcagactcgg gagactcaag tgatgaggat caatcagggg cagataaagc caggaggaaa 480
agaagccgtg aaggaacttc atccaatggc gatggaaaat ctgaagtgca aggaaaggct 540
gctggggagg tggatgctgt tt 562

<210> 1262
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 1262
gacgagatga tgatgaagaa ggggagcgac ggagggatag cggaggtgaa tcccacgccg 60
aagaaggggg tgacgtccaa ggttgtggac tacattgaga agctgatcgt gaagttcatg 120
tacgactcct ctctgcctca ccaatacctc gccggcaact tcgctcccgt cgccgacgag 180
acccctcccg tcaccgacct ccccgtcgtc ggccatctcc ctgattgctt gaatggagaa 240
ttcgtccggg tgggccccaa tcccaagttt gccccggtcg ccggatacca ctggtttgat 300
ggagatggca tggttcatgg gatgcggata aaaaatggca aagctactta cgtctctcct 360
atgtgaggac gtcgaaactt aagc 384

<210> 1263
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 1263
ccgcgccact ccattcgcgc atctccgacc tcctctctcc acgcggccac tgtcccgtcg 60
cgcgaattcg ccccgccgtc gtaggagacc gcatcctccg ccgccgcggc gatggcccca 120
gcttcattcc ctgcgctagc aacgcatttc aatggaagta tgctaatgat actaactcat 180
ctggtgaaag tcacacacgt aatggaaggc cacgaggaga tgccagggga aggaatcaat 240
tacttcctcg ttactggccc aggataacag atcaagagct acaacaaatc tcaggagact 300
cgaactctgt aatcactcct ctgtttgaga aaatgttgag tgctagtgat gcaggtaaaa 360
ttggacgttt agtgctgcca a 381

<210> 1264
<211> 316
<212> DNA
<213> Eucalyptus grandis

<400> 1264
ccgagaagag gaccccccaag aagagaggga ggaagccagg cctcggccgc gacacgccgc 60
tgaaccacgt ggaagccgaa cggcagcgcc gggagaagct gaaccaccgc ttctatgcgc 120
tgcgagcggt ggtcccgaac gtgtccagga tggacaaggc gtccctgctc tccgacgcgg 180
tgtcctacat caacgagctc aagtccaaga tcggcgatct ggagtcccag ttgcagagag 240

agtccaagag ggtcaaacag gaggtcaccg acgcaaccga caacctgagc accaccacct 300
ccgtcgacca tagtag 316

<210> 1265
<211> 356
<212> DNA
<213> Eucalyptus grandis

<400> 1265
tcaggctccc acgccgttcc attcgcgcat ctccgacctc ctctctccac gcggccactg 60
tcccgtcgcg cgaattcacc ccgccgtcgt aggagaccgc atcctacgcc gccgcggcga 120
tggcggcgcc acgaggagat gccaggggaa ggaatcaatt acttcctcgt tactggccca 180
ggataacaga tcaagagcta caacaaatct tggagactca aactctgtaa tcactcctct 240
gtttgagaaa atgttgagtg ctagtgatgc aggtaaaatt ggacgtttag tgctgccaag 300
aaaatgtgcc gaggcctatt ttccgcctat ttcccagcct gaaggattgc cgctca 356

<210> 1266
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 1266
gcgcgcacga gacatgggac gatccccttg ctgcgagaag gcgcacacca acaagggcgc 60
gtggaccaag gaagaggacc agcgcctcat cgactacatc cgcctccacg gcgaaggttg 120
ctggcgctcc ctccccaaat ctgccgggct tctcaggtgc ggcaagagct gcaggctcag 180
gtggataaac tacctccgcc ccgacctcaa cgcggcaact tcaccgagga agaagacgag 240
ctcatcatca agctccacag cttgctcggc aacaagtggt ctctgatcgc ggggagattg 300
cccggaagaa ccgacaacga gatcaagaac tactggaaca cccacatcaa gcgcaaagct 360

<210> 1267
<211> 375
<212> DNA
<213> Eucalyptus grandis

<400> 1267
cgcccacccc tcctcgcagc ccagcgctgc cgctcacttc agtcaagggg taccctgccc 60
gcaacagcat ttccgagtat gacccgcgaa ggcgtaactc aattcccgca gaatacttta 120
ctatgggctt tactccctct gctcccattt accctcccat ctctccactg cacccgtcca 180
cacaactccc tgctgtgacg caggctcggc cctcgggtga gtccaaaggg gacccaagaa 240
agaagtacca atgtgccgcc tgcccgcgtg catttgccag ggcttacaat ttaaagaccc 300
acatggcaac gcatgacccc aacaggctga agccccatgt ctgcccccat cgttcttgcg 360
gccgttcctt cagca 375

<210> 1268
<211> 567
<212> DNA
<213> Eucalyptus grandis

<400> 1268
gacgagatga tgatgaagaa ggggagcgac ggagggatag cggaggtgaa tcccacgccg 60
aagaaggggg tgacgtccaa ggttgtggac tacattgaga agctgatcgt gaagttcatg 120
tacgactcct ctctgcctca ccaatacctc gccggcaact tcgctcccgt cgccgacgag 180
acccctcccg tcaccgacct ccccgtcgtc ggccatctcc ctgattgctt gaatggagaa 240
ttcgtccggg tgggccccaa tcccaagttt gccccggtcg ccggatacca ctggtttgat 300
ggagatggca tggttcatgg gatgcggata aaaaatggca aagctactta cgtctctcgc 360
tatgtgagga cgtcgaaact taagcaagag gagtactatg gggagctaa atttatgaag 420
attggagacc ttaaagggct ttttggttta ctcatggtca atatgcaaat gctgagagca 480

aaactgaaaa tactagatgt ttcatatgga acagggacag gcaatactgc actcgtatat 540
caccatggaa aactgttggc gctttca 567

<210> 1269
<211> 567
<212> DNA
<213> Eucalyptus grandis

<400> 1269
tcgccaccta atgcatgcac tgaatctgca gttgccacca ttagacccaa aacggtgagg 60
tttaagccag tgccaaatcg agctccaact gcagtgaatt catcccaggc agaagtctct 120
ggaacagcaa ccggcaattc caatgataag gctttaaagt cagatgaaaa gcctaccgta 180
atatacaaac cattggcaaa gcttgtctca aggtcaaccg tctcgctctt ggctaatatg 240
ggaagcttca atatggctca ccatcaaaca ttgtcagttg ccgaagcacg tgttaaatct 300
caactgcagg acaaaaacaa ttcgagatcc cagcctattg gaaatctcca tcggagtgtc 360
tcttcacaag cagatatgga tgggacaagt gaacccttga gattggcctc ccagaacatg 420
gaagaagaca cgagaacttc accggccttg aacatggatc gcccttctta cgatggatat 480
aattggagaa aatatgggca aaagcaagtc aagggaagcg aatatcctag aagttactat 540
aaatgcacac acccaaactg cccggtg 567

<210> 1270
<211> 325
<212> DNA
<213> Eucalyptus grandis

<400> 1270
gcggggtgta cgtccggaac ggcgccaacc cgctccacga gccggtcgcc gggcaccact 60
tgttcgacgg cgacggcatg atccacgccg tccggttctc cggcggctca gtgagctacg 120
cctgccggtt caccgagacg caacgcctga tccaggaacg gggcctcggc cgccccgtct 180
tccccaaggc catcggcgag ctccacggcc actccggcat cgcgcggctc atgctcttct 240
acgcccgcgg cctcttcggc ctcgtcgacc accgtaatgg catgggcgtc gcgaacgcgg 300
gcctcgtgta cttcgacggc cacct 325

<210> 1271
<211> 365
<212> DNA
<213> Eucalyptus grandis

<400> 1271
cacaggcgcg atcgggccaa gcgagcgtcc cccccgggaa ttcagaaccc agccgccgcg 60
ccccgccgcc ggcagccgcc gtctccggcg cccctctccg gcacctccga cgccgcccgc 120
gtccggagca ccctcgaccc ttcgattcgg aggctggttc gctgaggctc gaggcgacgc 180
gaattgttat cgatagctat gcagagtcaa cttgtctgta atggctgtcg aagcattctt 240
ctttatccaa gaggggctac aaatgtttgc tgtgcattat gtaacacaat aacctctgtt 300
ccttctcctg catatgtagg tgcagatatg gcccagctta tatgtggagg ttgcaggaca 360
ctgct 365

<210> 1272
<211> 365
<212> DNA
<213> Eucalyptus grandis

<400> 1272
accgtgcccg cgatgcaaca gcatggatac caagttctgt tactacaaca actacaacct 60
gaatcagccc aggcacctct gcagaaagtg ccaacggtac tggactgccg gaggaacgat 120
gaggaacatc cctgttggcg ctggccgtcg taagagcaag aattcgtatg cagccacggt 180
ggcactgttt cacaacacgg gagtacctga atctcttcga gctgattgtg ctggtgattt 240

gaaaaccgcc ggaaccacca tcctgaggtt cggttcagat tctcctaatt ggggtcaatc 300
tgcagctcca gtgccaagta ctataaacgg atttcttgat cctggacgaa caattccatg 360
ttctg 365

<210> 1273
<211> 328
<212> DNA
<213> Eucalyptus grandis

<400> 1273
aacaaatcag nggaagaaaa tatgcagcat ttgaaggacg aagctgcgaa catgatgaag 60
aagatcgagc tcctggaaga ttcaagaagg aagctccttg gtgaaggtct aggatcatgc 120
tcgatagagg aactgcaaca gatagaacag cagctagaac ggagtgttat cagcattcgt 180
gctagaaaga ctcaggtctt caaggagcag attgacaagc ttaaagagaa ggagaagatg 240
ttgacagctg agaatgcaat cttaactgag aagtgtggaa tcaagccccc acaaagagca 300
aatgagtgca gggatagtcc acttctca 328

<210> 1274
<211> 390
<212> DNA
<213> Eucalyptus grandis

<400> 1274
cttaccgagc actcccctcc tgattctaac tcgtccattt tcgttggtag cagtacatca 60
ttggctaata agcctaaata cagagatatc caagcaagag aagccacaag tggttcatcc 120
cgccaacact cagatgaaga tgatgctgcg acagtggcag atccaagcga acagagcaga 180
tatcctactg atcccaagcg aattagaagg atggtttcca atagggagtc tgctagaaaa 240
tcacgtaaaa ggaaacaagc acacttagcc gaacttgaaa tacaggctga ccgacttaga 300
ggagaaagtt ctactttgtt taagcaacta ttagatgctg cacagcacta ccgccatgct 360
gatacaaata atcgagtgct gaaatctgat 390

<210> 1275
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 1275
gaattacacc caaccaaacc aaaagagtca taattcagga tccaccttgt ttagttaagc 60
aagaataatt ttcccttccc ttttctcttt ttgagccctt tagagttaca tgtcttgggt 120
agcaatgacg gggaactttg ggtggggctc aaactccatg gaagaggcgt ggaggaaagg 180
tccctggact gctgaggaag acaagttact cattgagtat gtgaagttgc atggggaagg 240
aagatggaac tctgtagcta ggctcacagg gctcaagagg aatgggaaga gctgtagatt 300
gaggtgggtg aattacttga ggcctgacct gaagagaggt cagataaccc ctcaagaaga 360
gagcgtcatc ctagactccc gcta 384

<210> 1276
<211> 382
<212> DNA
<213> Eucalyptus grandis

<400> 1276
gtcgaccgag tggaagagag gttggcccct ccgatctggt caactcgcca ccctctgcga 60
taagtgcggg tctgcatttg aacaggccac gttttgcgaa gttttccact cgaaggactc 120
cggatggagg gagtgcgctt cctgtggcaa gcgcctgcat tgcggatgca ttgcttcgag 180
gatgctgctg gagctgctcg attgtggcgg gatcaactgc gcgacctgtg cgaaaagttc 240
aggacttctg cctatcgcaa gtgatgagag gcctagtgag tttggcatga ttaatgttcg 300
tactggtgaa ctgcaatcta gtaccacaga caaccatttc gatagcgacg aggttgataa 360

actgaagctt attcgattga ga 382

<210> 1277
<211> 367
<212> DNA
<213> Eucalyptus grandis

<400> 1277
ataagatcgg atctttcctg ctttggcgac gccggaaacc cgaattcagt gcccaaacag 60
tagtcgaccg accgaccgac cgaccgggaa gttccgatca tggccgtgga gatgtttcaa 120
gagccggagt cggcgttcct cgactccgtc cggcggtacc tgctgtcgga ggactccgag 180
tgccggttct tcgagccgcc gccgccgccg acccggaact tctgcggcgc cggagccccg 240
gtgatctgcg ggagctccag cttcagcagc ctgtacccgt gcctgaccga gaactggggc 300
gagttgccgc tcaaagaaga tgacccggaa gacatggtcc tctacggcgt ctccgcgacg 360
ccctcac 367

<210> 1278
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 1278
cacgctcatc ggtctgccag aaactcacgg agagagagag atggcggaga gagaggagaa 60
ggggaagtac gacgagatga tgatgaagaa ggggagcgac ggagggatag cggaggtgaa 120
tcccacgccg aagaaggggg tgacgtccaa ggttgtggac tacattgaga agctgatcgt 180
gaagttcatg tacgactcct ctctgcctca ccaatacctc gccggcaact tcgntcccgt 240
cgccgacgag acccctcccg tcaccgacct ccccgtcgtc ggccatctcc ctgattgctt 300
gaatggagaa ttcgtccggg tgggccccaa tcccaagttt gccccggtcg ccggatacca 360
ctggtttgat ggagaaggca tggt 384

<210> 1279
<211> 368
<212> DNA
<213> Eucalyptus grandis

<400> 1279
cacggcggcg ccgccgggtt tcttgggccg agggccgtgc cgatgaaaca ggcaggtctc 60
gcccagaagc ccacgaagct gtaccgggga gtgaggcaga ggcactgggg gaagtgggtg 120
gccgagatcc ggctacccaa gaaccgcacc cgcctctggc tcggcacctt cgacacggcc 180
gaggaggccg ccctcgccta cgacaaggcg gcgtaccggc tgcggggtga tttcgcgcgg 240
ctcaacttcc cgcacctcaa gcacaagggg tcgcacatcc aggcgacttt cggcgactac 300
aagccgctcc attcctccgt ggacgccaag ctccaggcca tctgccagga catggccgag 360
aaaccagc 368

<210> 1280
<211> 341
<212> DNA
<213> Eucalyptus grandis

<400> 1280
gtcaactcgg tgttcgagct gcacaagctg ctggcccgcc cgggggcgat cgagaaggtt 60
ctgggcgtgg tgcggcaggt gcggccggcg atcgtgacgg tggtcgagca ggaggccaac 120
cacaacgggc cggtcttcgt ggaccgcttc aacgagtcgc tgcactacta ctccaccttg 180
ttcgactccc tggagggctg cgccagcacg caggacaagg ccatgtcgga ggtctacctc 240
gggaagcaga tctgcaacgt ggtggcgtgc gagggcgccg accgggtcga gcgccacgag 300
accctcgccc agtggcgggt ccgcctcggc ggcgccgggt t 341

<210> 1281
<211> 295
<212> DNA
<213> Eucalyptus grandis

<400> 1281
tgactttcaa tgagtttcag aacacatgga gtggactttc taaggatatt ggatccatca 60
acatggatga gttcctgaag aacatatgga cagctgagga gagccaacta cagctacaag 120
acatggcgcc ttctggtaat ggaggggaag gaggtggtca agtagggaat ttgctgagac 180
aggggtcatt gactctgtcg cggactatta gtcaaaaaac agttgatgaa gtgtggagag 240
aattattcaa agagacggag gatgtgaaag aagggagtag agaaggaggt gacat 295

<210> 1282
<211> 365
<212> DNA
<213> Eucalyptus grandis

<400> 1282
tttttttttt ttttcaagct aagatcaaac caaaattaaa aaagaatttc acagtatttt 60
tatgcaaatg caatgacacc ttatcaaggt ttaccaaatg ttgaaacaaa ttatacacac 120
ggcctgaggc atccatgaaa tcacgcaggc aaaacccgcg gctcattttc acgactgcct 180
acctgctcgc ggggttatt caaagcctcg aataccttag tgcaagcacc tgagaattcc 240
atcaatgcct taaaaacgcg aggcaggccg ttcttgaggg ggttcagtgc catggccttg 300
gtgaactcga ccgaaaccgc atacttggcn ttcacatcgt ccaaccgttt tttnagggcc 360
tcgat 365

<210> 1283
<211> 428
<212> DNA
<213> Eucalyptus grandis

<400> 1283
ctccggcgag ctcaaactgt tcatgaccac gtcgccgtcc tcgtaatcct tcgcactgat 60
ctcttcgccg ccaccgcctg ccccctcggc ctcctccact tcctcccctg cttccccatt 120
gccaaacgcc ctcgccgcct ctgccgccgc tgcctgtatc tctgctgcgt ccgtggactc 180
cggcacgcgg agccgccatg ccgagtcggc gaaattgagg cacgcgcccc gcccgcggag 240
cgccagcgca gccacgtcgt gggcccgggc ggccatctcg gggtcgggt acgtcccgag 300
ccatatccgg gtcttcttgt tgggctcccg gagctcgcac acccacttgc cgttgttcct 360
gcgccggacc ccccggtaca cggggtggcg ggtctccttg aacacgaccc gcccggcccg 420
cttcttcg 428

<210> 1284
<211> 532
<212> DNA
<213> Eucalyptus grandis

<400> 1284
ggaaaagaga aggcagcttt cccgtataaa acccaaaccc ctccaaattc tccccccaat 60
tctccagcca gggaagggcg agggcggcga cggcgacggc gacgatcatc ccatctccga 120
ccagctgatc cttccgctcc atcgtcgtca tgtacggacg ggcggcggag tggagccgct 180
acgaggacaa ggtcttcgag cacgcgctgg tggcggtggc ggaggactcg cccgaccggt 240
ggcagctgat cgggaaccgc ctgaaccggt ccgcgtcgca agtgttcgag cactaccaga 300
ggctggtgga ggacattgac gcgatcgagt cggggcgggt cgagccgccg agctaccgcg 360
acgaccaccc ggcgagctgc ggccagattg ccttcgagac gaagccccgg atcaaggagg 420
cggagaagaa gaagggcaac ccgtggaccg aggaggagca caggttattt ttgctcgggc 480
tgcagaccta tggcaagggc gactggagga gcatctcgag gcactttgtc ct 532

<210> 1285
<211> 349
<212> DNA
<213> Eucalyptus grandis

<400> 1285
aaagtcccga gatgccgcga cgcgaattcc cctctcgaat gcgctcggaa ttcgagcgat 60
gatcggagcg gcgaccaacc agatcccgcc gccgccgccg ccgccgcagc cgcagcaagc 120
cgcgcccgcc gccgccgcga tccggttccc cgactccgtc tacaacgcgc tcagggtggg 180
cgccgtcttc cagcggctgt cgaagcacct cgccaccatc ggcaagggct ccggcctgtc 240
ggcatcttgc ggtacttcca tggagttcct gaactcgtgc ctctgcctcg ccagaggcat 300
tgactatgcg gtcgcgaaca atgaggttct gcccaaagct cacgaattg 349

<210> 1286
<211> 350
<212> DNA
<213> Eucalyptus grandis

<400> 1286
cttctgcgag ctagggtttc tctcgctcct cctcctctct aggccgtgat ttctcctccc 60
ctcgatcggc gacgtcgccg tcggttcggc tctccggtag ctcctgctcc tcccggcttt 120
catggaggct aaggtgatgg aagacgctag caagtccgag gctcactcca tatcggctgc 180
ggccttcgtg gaaggtggag tccaagaggc ctgcgaggat gcttgcagca tctgccttga 240
agctttctgc gacagcgaac catctacggt gaccacttgc aagcacgagt atcatctcca 300
gtgcattctc gagtggtgtc agaggagttc acagtgtccc atgtgttggc 350

<210> 1287
<211> 344
<212> DNA
<213> Eucalyptus grandis

<400> 1287
gaaggttgga acatctggtg gagcaggccc ttgtcctgca aacagatgca tgtatgcttc 60
ataactctat agatatggaa atgtcactgt acactgatca tcaatgtggt aaagaacaca 120
tcccctgtcg aactttgcag attttacaat cacataatga tgaagtttgg cttgtgcaat 180
tttcacataa tgggaaatat ttagcttctg catccaatga tcgatcagca atcatttggg 240
aggttgatga gaatggcagc gtctcattga agcataaatt gactggtcac cagaagccga 300
tttcttctgt ctgttggagt ccagatgacc gacagcttct cact 344

<210> 1288
<211> 359
<212> DNA
<213> Eucalyptus grandis

<400> 1288
aacatcttct ggctaagcgc gttcagcatc actctcaact actggcgtga agatgttcaa 60
aggcaaactt tcttatctca gaggctaaaa gatgttccac ccatggcttc ttaatctgat 120
ccagatgaac cgtggagaaa caaaatcgaa gtctcatcaa aaggatcctg attgacctaa 180
gaatgacaag gcaaccattc ttacggacaa aatccaggtg ctgaaggatt taactacgga 240
agttaacaaa ttgaaagctg aatgtgcagc tcttattgaa gaatctcgtg agctgatgca 300
ggagaagaat gagctcagag aagagaaatc atctttaaaa tctgaagttg aaaatctta 359

<210> 1289
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 1289
tggatccaaa gaattcggca cgaggctgcc tccaccacca ccgccgtccc caccgccgcc 60
accaccacca ccaccaccac caccacctta tactgtacaa ataatccctt ggcctcggcc 120
gttatagcct cttactcaaa aatcagtttt taccctttc tgttgcgtag tcgtagtttt 180
gggccagggg ttctattcgg tatatgtaga gaagtcagtg ggcgaaaccg agcgtcgagc 240
ggtcggccat ggcttcctct tcttctgtag cttccgcgag gaaggacgcg gatcggatca 300
aggggccgtg gagccccgag gaggacgagg cgctgcagag gctggtccag agctacggcc 360
cccgcaactg gtccctgatc a 381

<210> 1290
<211> 330
<212> DNA
<213> Eucalyptus grandis

<400> 1290
ttccaatctt cccttccctt cccatcgcac ctctccaaag attccacctt tcgtctctct 60
ctctcgaagc ccaaaccctc tcgatctata ttgccctcct ctcctccgtt catccctcgc 120
aaaaccagac ccccggatca gccccgaaag aaggtcggac aagcaagatg gcggaagagc 180
accggtgcca ggccccgcgc ctctgcgcga acaactgcgg cttcttcggc agccccgcga 240
cgcaggattt ctgctccaag tgctaccgcg acctccagct caaggagcag cagtcctcca 300
acgccaagct cgctttcaac cagaccctgt 330

<210> 1291
<211> 296
<212> DNA
<213> Eucalyptus grandis

<400> 1291
gcagccgagt cgagcaagaa actaacgaac gcccggtgtc attaggattc ataatccaca 60
agaacaaaag aaaaaaggat catgggaaga tccccatgtt gcgaaggcaa tggcctgaag 120
aaagggccct ggtcttctga ggaagacaag aagctccttg attttatcca gcagcacggc 180
catggagctg gatctctctc cctaaacgtg caggtcttaa tagatgtggc aagagctgca 240
gattgagatg gataaactac ttgtggccgg acatcaagag agggagtttc tccccg 296

<210> 1292
<211> 355
<212> DNA
<213> Eucalyptus grandis

<400> 1292
gccaagaccc tggccggcca caaggccgcc atctccgccg tcaagttctc gccggacggc 60
aacctcctgg cctcctcctc cgccgacaag accctccgcg cctactccac cgcctccctc 120
gccccgctcc acgacttcca cggccactcc cagggcgtct ccgacctggc cttctccggc 180
gacacccgcc tcctcgccnc gcctccgacg acaagaccct ccgcctctgg gacgtcccca 240
cggggacccct cctcaagacc ctcacggcca caccaactac gccttctgcg tcaacttcaa 300
cccccactcc aacctcctcg tctccggctc cttcgacgag accgtcccgc gtctg 355

<210> 1293
<211> 362
<212> DNA
<213> Eucalyptus grandis

<400> 1293
cccctctacc ccccaagccc cccaagccgt cctcgtccac cctcagctcc cgccgcccgg 60
ccatccaagt cgcggtcccc gcggcgacga gcttcctggc ggcgccggct gtcccccggg 120
ccgagccgtc gggctccgct ggcggcgacg acgacaagca ctaccggggc gtgcgccggc 180
ggcgtggggg aagttcgcgg cggagatacg cgacccgacg cgcaaggggga cgcgcgtgtg 240

gctggggacg ttcgacacgg cggtggaggc cgcgaaggcc tacgaccgcg ccgcgtttag 300
gctccgcggg agcaaggcca tcctgaactt cccgctcgag gcgggacgcg acgagccgac 360
gt 362

<210> 1294
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 1294
ctctgccgaa ccggagaggg gccgacaaat gaaaaggagg cggaggagga gatgacgatg 60
ccgatgccga tgccgatgat ggaccggatt agcccgtaga gaggaatcgg attgctttgc 120
cggaacaaga gatttcgcga cgacgacgac gacgacgacg acgaataggg aggaaaaaga 180
tgcggacgat ctgcgacgtg tgcgagaatg ctgccgcgat cttcttctgc gccgccgacg 240
aggccgctct gtgccgcgct tgcgacgaga aggttcatct gtgcaacaag ctggcgagtc 300
ggcatgtgcg cgtcgggctc gccgatccta gtgaggtcca acgttgcgat atatgtgaga 360

<210> 1295
<211> 344
<212> DNA
<213> Eucalyptus grandis

<400> 1295
cgtctcctcc gtcaccctct ccctcttctt cctcttctac aagcaccggt cccactatgc 60
tggcccgaac ctcccccegg gcagcatcgg cctcccgttc atcggcgaaa gcctcgactt 120
cctctccacc gggtggaagg gccacccgga gcggttcatc ttcgaccgga tcgcccgcta 180
ctcctcccac gtcttcaaga cttccctcct cggggagccg gccgccatct tctgcggcgc 240
cgccggcaac aagttcctct tctccaacga gaacaagctg gtggtctcgt ggtggcctaa 300
ctccgtcaac aaggtcttcc cttcctccac ccagacctcc tcca 344

<210> 1296
<211> 287
<212> DNA
<213> Eucalyptus grandis

<400> 1296
gttactacga gagacaaacc aactttgctc ctcgtccatc caagattgcc aaccctggtg 60
cccttggtct gttctccttt gcatcgacga cgttcattct ctccctctac aacgtcaatg 120
cgcgtgacgt aaccaccccc aatgttgtgt tggcatggcc atcttctgtg gaggccttgc 180
tcagctcctc gctggcatgt gggagtttcc tcgcggcaac acctttggag caacggcttt 240
ttcctcatat ggcgcatttt ggatgtcgtt tgctacgatt tatatcc 287

<210> 1297
<211> 557
<212> DNA
<213> Eucalyptus grandis

<400> 1297
ctctctccct ctctctctct ccctctgcaa gtgctggctg ctcagatggc tgaagcgaga 60
gcacatgggt tcgtctacgc cagcaagaag aggccggggt ccgatgatgc cgatggcggc 120
gaggacgcga tggtggtggc caagaaacag atgatctccg gccccgtggc gggggtgtgg 180
gaggacccag cggaatgtcc gccatatcat cggtgctgat gcagctgtgc agcagcggcg 240
gacacatcgt ggcgtcccag gcgctgtacg gcgggaccca cgccctcctg acccacttcc 300
tcccgagggc gtgcaacatc acgacgacgt tcgtggacat ccgggaccac gccgcggtgg 360
cggccgccgt ggtccagggc cggaccaagg tgctctactt cgagtccgtc tcgaacccga 420
cgctgaccgt cgccgacata ccggagctct gccggctggc ccacgacaag ggcgtgacgg 480
tggtcgtnga caacacgttc gcgccgatgg tcctgtcccc ggcccggctc ggcgccgacg 540

tggtggtgca caacatc 557

<210> 1298
<211> 500
<212> DNA
<213> Eucalyptus grandis

<400> 1298
gggcatacta aggcaatcga ttctgtgtgt tgggattcta ctggcgattt aattgcgtct 60
gtcagtgagg actctgttag agtttgggca gttgggtctg gtagtgaatg ggactgtgta 120
catgaattga gctgcaatgg aaacaaggcc cactcctgcg tgttccaccc aacttatcct 180
tcacttttgg tgattggctg ctaccanacc ctggagctct ggaatatggc cgagaacaag 240
acaatggctt tgccagctca tgacggacta atttcagcat tagcagtatc aaatgtgacg 300
ggcctggttg cttcagctag tcacgacaag acagtgaagc tgtggaagtg atactttggc 360
atctccaggt atttttccta agcactcaga ttggaagact gaaatcgctg ttcccatcaa 420
agtgcatgta tcttgtcctt gtatcaagtt gcctcagtac gcccagttgg tgtccgtctc 480
actgatacta atttatagct 500

<210> 1299
<211> 444
<212> DNA
<213> Eucalyptus grandis

<400> 1299
gagacacacc ccgcaatcta ccggaggcgc cacgaccttg tgagcgcacg ggcttgctcg 60
ttcgatcttg agtcatgagg ctcctgtgcc tgctcgcgtt gatcccgctc gtcgcagcgg 120
agtgcacgtg cgagagcgat cccgaggaac gcaacaggac ccgggccctc aagtacaagc 180
tggccgccat cgcatcgatc ctcgtggcgg gcgcggttgg ggtgtgcctc ccgatcgtgg 240
ggaagaccgt cccggctctg cacccggaga ggagtatctt cttcatcatc aaggccttcg 300
cggccggggt gatcctgtcc accgggttca tacacgtcct cccggacgcc ttcgagaact 360
tgacgtcgcc gtgcctgagc gagaccccgt gggggatttt cccgttcgcg gggttcgtgg 420
ccatgctcgg cgcactcggg acgt 444

<210> 1300
<211> 547
<212> DNA
<213> Eucalyptus grandis

<400> 1300
ggaagctcta gggttgtgaa gtacattctc gaatctggca aagtcgatgt aaatagggct 60
tgtggttcgg acaaggtcac tgcccttcac tgtgctgttg ccagtggctc tgcttctgcg 120
gtggaggttg tcaagctctt gcttcacgca tctgccgatg ctaattgcat tgatggcaat 180
ggaaagaagc caattgatgt gatagccctt ccattaaagt cacgcggcga ttcaaggagg 240
aagctgatgg agctgttgct gaaaggcgat aattctgatg gggaatttga atcccacgag 300
gagaagccga ttgccgcacc gcaagcatcc aaagagggaa gcgaaaagaa agagtatcaa 360
tttcctgttg atatctctct gcctgacata aatgttggga tttacagtac tgatgagttc 420
agaatgtatg ctttcaaagt aaagccttgc tcgcgggcat actcccatga ctggacagag 480
tgcccatttg ttcatcctgg cgagaatgcg aagaggcggg accctccaag taccccctaca 540
actgcgt 547

<210> 1301
<211> 483
<212> DNA
<213> Eucalyptus grandis

<400> 1301
cttcgagttt ctttcttcac tagaattcgc tcccgagtct gttgttgctc gtgtagtttt 60

gcttactccg tccttcgttt agctcgctga ccagcgcgga gctaggagcg gtcgctaaag 120
gattactcgt acaaaacgta aactcagctc tgccaatttt cccatggagg gggaatctta 180
cttcgagaaa gatgaaaaat attctaattg ctcaatcttg ctcgaattat ctgcttcgga 240
cgatctccca gcttttgaaa ggaaagcgaa agagaagggc tgtaacattg atggtgctag 300
cttctggtac ggtagaagaa ttggctcaag gaagatgggt cttgaagaga ggactcctct 360
catggtggct tccttgtttg gaagctctag ggttgtgaag tacattctcg aatctggcaa 420
agtcgatgta aatagggctt gtggttcgga caaggtcact gcccttcact gtgctgttgc 480
cag 483

<210> 1302
<211> 368
<212> DNA
<213> Eucalyptus grandis

<400> 1302
ctttcttttg cttcccgtta atccctattt cgttatcaac actttaaaag tcggtgaaca 60
gtttaaaatt ggaatgcatc ggaagtagta gttcgacaat ttcaactttc aggtgctttt 120
tgggaaaaaa attcaatatg agaagatggg taaaatttgt tgcaattcat tttcagggat 180
gctgcggtgg tttgcatttt ggcgacgtgc ttgttcttaa tcttgacagt atggtttgga 240
gaactcttgc gaccaccggc caaggacctg gcccgaggga cagtcacagt gctgttcttg 300
tggggcacag gatggttgtg tttgggggta ccaacggctc tagaaaggtt aatgaccttc 360
atgtactg 368

<210> 1303
<211> 348
<212> DNA
<213> Eucalyptus grandis

<400> 1303
ccgagctggt gatgtcgtcc ggcctcgtct gcaacgacgc cgtcagctgg gtcacgttcc 60
acagcgccta cgacttcggg tacctggtca aggccctcac ccgccgcgag ctccccggcg 120
acctcccgga gttcctcgcc gtcgtgcggg tgttcttcgg ggaccgggtg tacgacgtga 180
agcacctcat gcggttctgc cacagcctgc acggcgggct ggaccgggtc gccgccgccc 240
tggagctgga ccgggcggtc ggcaagtgcc accaggccgg ttccgacagc ttgctgacgt 300
ggcaagcgtt caggaagatt agggacgtct acttcgccaa cgacgacg 348

<210> 1304
<211> 349
<212> DNA
<213> Eucalyptus grandis

<400> 1304
tgactttcaa tgagtttcag aacacatgga gtggactttc taaggatatt ggatccatca 60
acatggatga gttcctgaag aacatatgga cagctgagga gagccaacta cagctacaag 120
acatggcgcc ttctggtaat ggaggggaag gaggtggtca agtagggaat ttgctgagac 180
aggggtcatt gactctgtcg cggactatta gtcaaaaaac agttgatgaa gtgtggagag 240
aattattcaa agagacggag gatgtgaaag aagggagtag agaaggaggt gacataaatt 300
tgccacagag gcaacggact ttgggagaga tgacattgga ggagttcct 349

<210> 1305
<211> 354
<212> DNA
<213> Eucalyptus grandis

<400> 1305
cgctgacgag gcggcgctct gcgggggctg cgaccaccgt gtccaccacg ccaacaagct 60
cgcctccaag caccaacggt ttcccttct ctgtccttcc cctaaggaat tccctctctg 120

tgacgtctgc caggagaggc gagcgttctt gttctgtcaa caggaccgag ccattctctg 180
cagggagtgc gatctcccga tacacacggc caacgagcat acccagaagc acagcaggtt 240
cttgctcacg gggtgaagc tctccaccac gtcggaagtc tacacgtctg ccgccagcag 300
tgcctctctg tccaacggat gcgatttcgt ccccgacttc aaagtccgaa gcat 354

<210> 1306
<211> 513
<212> DNA
<213> Eucalyptus grandis

<400> 1306
caaagacttg ctttcctaca tgcacattct gtatgagatc tgcccctact tgaagtttgg 60
gtacatggcg gcgaatggag ccattgccga agcatgcaaa aatgaggatc ggatacacat 120
catagacttc caaattgctc agggcaccca gtggaccact ctccttcaag cgcttgctgc 180
aagacctagc gggccccctt atgtgcggat tacagggatt gatgacccgg tcaacaggta 240
cgctcgtggg gccggattgg aagcagttgc aggaaggttg gcggtgatct ctgagaaatt 300
taagatcccg gtggagttca acggtttgcc ggagtttgcc ccaaatgtta ctcgtgacat 360
gcttgatgtc aggccggggg aagctctcgc agtgaacttc ccactccagc tacaccacac 420
gccagacgag agtgttgaca tcaccaatcc aagggatggg ctactaagga tggtgaaatc 480
gctttctccg aaagtgatca cattgatcga gca 513

<210> 1307
<211> 348
<212> DNA
<213> Eucalyptus grandis

<400> 1307
agcagctccg cgtcgtgccg gggcagcagc agagcccgcg gagcgtcgag tcgctgtcct 60
cgtccccgcc ggcgtcgccg atgtcgcttt cgctgtcccg gtcgccgttc cgggcggacc 120
cgatgggcga gatggtcgcc tccctcagga acctgcagct cgacaaagtg aagtccatgc 180
cttgcggcgg gtccacttcc gggtcgccga gggcctccag gatccgaccg gggttctaca 240
gcatgcccac gacgccgaca caatccaccc cgacggcgcg cggctggggg tgcctggatt 300
cctgggagag cccttacgag gaagaaccgg cgatggagaa ggtggaat 348

<210> 1308
<211> 345
<212> DNA
<213> Eucalyptus grandis

<400> 1308
ggaaaagaga aggcagcttt cccgtataaa acccaaaccc ctccaaattc tccccccaat 60
tctccagcca gggaagggcg agggcggcga cggcgacggc gacgatcatc ccatctccga 120
ccagctgatc cttccgctcc atcgtcgtca tgtacggacg ggcggcggag tggagccgct 180
acgaggacaa ggtcttcgag cacgcgctgg tggcggtggc ggaggactcg cccgaccggt 240
ggcagctgat cgggaaccgc ctgaaccggt ccgcgtcgca agtgttcgag cactaccaaa 300
ggctggtgga ggacattgac gcgatcgagt cggggcgggt cgagc 345

<210> 1309
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 1309
cattagagct gacccctgaa agtgttaagc atgggtcaca atctggtcaa gaaggcagca 60
ctccctctat cagttatgaa aagagttcag aggatggata taattggcga aaatatggcc 120
agaaaaatgt taaaggaaat gaatttgtgc gtagctatta cagatgcacg catccaaact 180
gccctgtgaa gaaacaagtg gagcgctcgc gtagaggccg gattaccgat aacatctact 240

taggcgagca taatcatgct agcccacaga agcacctacc agtggctgtc agctttgctg 300
tgtctatagt tgaggagaaa ccagagaagc cttcccc 337

<210> 1310
<211> 383
<212> DNA
<213> Eucalyptus grandis

<400> 1310
gccccccttta ctttgttctc tctctccccc tctctctctc gccatcgaaa tcgaagagcc 60
gcctctctct ctctctctct ctcttttcca agaagatcga gaatttggtc acccttcagc 120
atctgactta agtttagtct gaaggagggg ttgcgtgatt cccatgtgat gaagtgggaa 180
acgggagttc ccttaccacc atgtgcatcg agtgcgaatt ggtttttcaa cgaggaggga 240
aggaccgcga aatggacccc tgccgagaac aaaatgttcg aaaaagcgct ggcggtgcac 300
gatcaggaca cgccggatcg gtgggatagg gtcgcctcga tgatccctgg gaagacggtg 360
gaggatgtgg ttaagcacta tca 383

<210> 1311
<211> 455
<212> DNA
<213> Eucalyptus grandis

<400> 1311
gttcatcggc ggctacggtg cttccacatc taccccttct ctttcctccc cctcctcttc 60
ttcgtcttct ctcttctctt tcgagcccgt gtcgttctcg gatggctgct cgacaagccc 120
cgaccctctg ggcttcgagc tacccggtcc gatcgggctc aaccacctca ccccatctca 180
gatcaaccag atccaagccc agatccagtt ccaaagcacg aacttgccct cctaccatgg 240
ccacggctac cacccgagca tgcttctggg accgaagccc gtgtccatga agatttccgg 300
gtcggcgggc aaaccggcga cgaagctgta ccggggtgtg aggcagaggc attggggcaa 360
gtgggtcgcc cgagatccgg ctgcccaaga acaggacccg cctctggctc ggcaccttcg 420
acacggctga ggaagccgcc ctcgcctacg accgg 455

<210> 1312
<211> 472
<212> DNA
<213> Eucalyptus grandis

<400> 1312
tgcaaaccct agactccgca tcttcgggag gaacgtctcg ctcctgcgaa acctcgtacc 60
gcgcttcggc ctcgcttgct cgataatggc agattctcct cgcaagaagt attcaagatc 120
cccctcacct tggagagagt aatcaaggtc taggtcgaga tccaggtcta ggtccccaac 180
ctggtacaag caccggccaa ggtcacggtc cagaagccat ggcagatcaa gatccagaag 240
tcatggcaga tcagtggatg agaacaatcc tggaaacgca ctttacgtga ccggtttatc 300
cactagggtc actgaaaggg acctagaaga ccacttttca aaagagggga aggttgcttc 360
gtgctttctc gtggtggagc ctcgcacacg catctcccgt ggttttgcat ttattaccat 420
ggagactgtt gaggatgcta accgctgtgt caagtatctg aatcaagtct gt 472

<210> 1313
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 1313
gcacagtcta acctgattac ctacaaagga cctaccatga ttgcttgtac actgcaagca 60
atcgccatat tgttaaagga gagcttggag tgggattggt ttatcaatct cagtgcttca 120
gattatcctc tggtaacgca ggatgatctg ctttacgtgt tctccaacgt atctagaagt 180
cttaatttca ttgaacatga tcagatttct ggatggaaat tgaaacacag atctaaatca 240

atcatcatcg atccaggatt gtacctgtca aagaagtatg aagtaacctg gagcactcaa 300
cgtcgatcag ttccaacatc tttcaagttg tttactggat cagcatgggt aatggtaact 360
cgctcttttc tcgagtattg tata 384

<210> 1314
<211> 428
<212> DNA
<213> Eucalyptus grandis

<400> 1314
ccgcggcgac gacctcctcc ggcgtctccg ggaaggtcca cgagtgctcg atctgccaca 60
agagcttccc caccggccag gcgctcggcg ggcacaagcg gtgccactac gaggcccccg 120
cccccatccc cgcctccttc tccgccccct ccgccgccgc cgccccggcc gccagcgggg 180
tgagcgtgtc ggagggcgtg gggtccacgc acacgcagag ccaggggcac cgcgagttcg 240
atctgaacat cccggcgctc ccggagttct cccccaggtt cgtcgtctcc ggcggggtcg 300
acgacnaggt ggagagcccg cacccctcca agaagccccg gttcctggcg ccggcggtga 360
agacggaagc ggcctgaact gggtcggatc gaaaacgcac agaagccaaa ccaaaactct 420
gcgagact 428

<210> 1315
<211> 140
<212> DNA
<213> Eucalyptus grandis

<400> 1315
ccaaggccgc ggcggtgcac gagggcgagg gagcgaggag cgagctgaag ttcatagggg 60
tgcggaagag gaagtggggc aggtgggtct ccgagatccg cctgcccaac agccgggaga 120
ggatctggct cggcttctac 140

<210> 1316
<211> 502
<212> DNA
<213> Eucalyptus grandis

<400> 1316
gtaaaaaagg ggcagccctc tgctctgtct gaattgccgt ctctcgctac ttctctgggc 60
ttctttttct ttgcttccct tccttaaact ctccctctcc ccgtttcttg tctggttttt 120
ctgggtgctc tcgcttttcg ctgctgaagg agtgagtttg accgtcgggt tcctttcttg 180
atcctccaat tcgatcgtca gctcctcgtg tcgacttttt tcgggtttcc tgtcggcact 240
gttcgattcg gattcctcga cggaatgggg agtaacatca acttcaagaa cttcagcacc 300
gatccgacgc cgacgaataa caggcctcct ggcaacacgc tgttaacccg gcaaccgtcg 360
gtgtacacgc tgacctttga ggagttccag aactctatag gcaaggactt tgggtccatg 420
aacatggatg agctcataaa gaacatttgg tctgcagagg agaaccaatc tatggcatct 480
gctagtggcg cttgtggtgg cg 502

<210> 1317
<211> 365
<212> DNA
<213> Eucalyptus grandis

<400> 1317
cgctgacgag gcggcgctct gcgggggctg cgaccaccgt gtccaccacg ccaacaagct 60
cgcctccaag caccaacggt tttcccttct ctgtccttcc cctaaggaat tccctctctg 120
tgacgtctgc caggagaggc gagcgttctt gttctgtcaa caggaccgag ccattctctg 180
cagggagtgc gatctcccga tacacacggc caacgagcat acccagaagc acagcaggtt 240
cttgctcacg gggtgaagc tctccaccac gtcggaagtc tacacgtctg ccgccagcag 300
tgcctctctg tccaacggat gcgatttcgt ccccgacttc aagtccgagg catcgtcctc 360

gttca 365

<210> 1318
<211> 372
<212> DNA
<213> Eucalyptus grandis

<400> 1318
gtacgataag tattccctct cagtcacccc cgccgacgat cctcctgccg accgcctcct 60
cccccggccg ttccgatcct cccggcgacg cgacgacaat ggtgaagccg agcggcggcg 120
gcggcgatcg gggcccccg ctggcgccgt tcctcagcaa gtgctacgag atggtggagg 180
acgaggcgac cgaccccatc atcgcgtggg ggagcgccgg cgacaccttc gtcatctggg 240
acatcactca attcaccctc cagttgctcc cccactactt caagcactcc aacttctcca 300
gcttcatgcg ccagctcaac atctacggtt tcagaaaagt tgattcagat cgttgggaat 360
tcgcaaatga tg 372

<210> 1319
<211> 363
<212> DNA
<213> Eucalyptus grandis

<400> 1319
accctgtata atctcaatcc ttggatttag agaagatttg tccaggacaa gaggagccac 60
agatgaagca atccatgcac tgccgaccta caagtttaag ttaaagaaga acagaaatag 120
cagtgataca gaaaactcag cttctgggga aggagtaata gctgctggaa cagaaaggga 180
gcgtgtgatt tctggggatg atgctgtctg ttgcatatgc ttagcaaaat atgcaaacaa 240
tgacgagctg agggagcttc catgcaacca tttcttccac aaggagtgcg tggataagtg 300
gctgaaaatc aatgcattgt gtcctctatg caagagtgag gtcgggataa tcacgctggt 360
atc 363

<210> 1320
<211> 401
<212> DNA
<213> Eucalyptus grandis

<400> 1320
atggaatgct atggttatga ggattaatgt tgcacttttc gaagtctagg ttaccccaat 60
tttgtcactt ttgctgattt cccactattt tcaggccttg gttggcttaa ctggagattc 120
atgggtgaat gtaagtcatg cgcatcactt gtattgtatg atatgtagca actgcttgct 180
tgagtcacat cacttgtccc ataaaccttg tattgtagtt ctgtgttttc acggccagta 240
agattcacct tcttatgcat atctctattt tcctgatgca tgagatctcc ctttctgtta 300
agctctctta tttcgtcgat cagaatttga tcctttttca cacgaatacc cttcaagctc 360
atttccaatt ggttttccaa attctgtagt tcttttacgc t 401

<210> 1321
<211> 364
<212> DNA
<213> Eucalyptus grandis

<400> 1321
ctcgtgccgc ggagtcttat atcagggagc ttaacatgaa cctacaagct gcagagtctg 60
ataaggagga tttgaagaag cagttggatg aactaaagaa gcgatcatcg gataaagaat 120
gtatcccggt ggatcaagat cgcaagatgg caaaacctac gggaagtagg tccactgggg 180
tggcaatcga tgtgaagata atgggttggg atgcagtggt tcgagtagag agcggccgga 240
aggatcatcc tgcagcaagg ttaatggtgg ctcttcaaga attgaacttg gagttgcaac 300
atgctagtgt ttctgtggtg aacgagctca tgatccacaa gccacagtta agatggggag 360
tcag 364

<210> 1322
<211> 413
<212> DNA
<213> Eucalyptus grandis

<400> 1322
ttttttttt tttttcaaa ttcaagttgg gaattttatg acagtgtagt ggaagttcta 60
gacattgctc ccttgatcct atggaagtag aattaaagct aatcatcaag ctaaacatga 120
actacaacta gtacaaaact ttacagactc gtcaaaaccc acaagtttca ccaccacgca 180
gaagaagttg ccatagctcg attcctccac cagagataaa gagctccatc cttctcttcg 240
attctataat tctcgttata ttcccttaat agatttctga cagcatcagt aactgcagaa 300
ctcaatggga actgttgaaa cccggccatc ctaaaccttg acctccattt ccccaaaagt 360
tcatgccttt caaccctttc cgtctcctca caagctatca tggtggctat gtc 413

<210> 1323
<211> 382
<212> DNA
<213> Eucalyptus grandis

<400> 1323
caacaggatc ctttgtgtac tttctttgta tccacagaaa gatggatgag agcaataaca 60
accctggggt ggctgataat gccctgggcg acgacgggca gttcaaggag caagaccggc 120
tgcttccgat agcgaatgtt gggcggatca tgaagcagaa cttgccgccg aatgccaaga 180
tctccaagga ggccaaggag acgatgcagg agtgcgtgtc ggagttcatc agcttcgtca 240
caagcgaggc gtccgataag tgccggaagg agaggaggaa gactgtgaat ggagacgaca 300
tctgctgggc gatgcaagcc ctaggcttcg acgactatgc gagtgctttg aggaggtacc 360
tgcatagata tagggaaata ga 382

<210> 1324
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 1324
gcttacaggg cctgcttggt gggttaattc tttttcagct gatatcgttg tccttacggt 60
tatcctcttc tctccaactc ctctggttct ctgttccgcc aaagaaatgg ggagacattc 120
ttgctgtgtg aagcagaagc tgagaaaagg gctatggtcg cccgaggaag acgagaagct 180
cttcaactac atcacccgat tcggcgtcgg ctgctggagc tctgtaccga agctcgccgg 240
taagacatga tgacagacgg gaaaggagaa gctcattcac agttgttttc tggggaataa 300
gtttctgttc ttggagagaa tttgattcga aaaccatgtg aatgatcgaa ttctctcgtc 360
gaatgcacga ctccaga 377

<210> 1325
<211> 305
<212> DNA
<213> Eucalyptus grandis

<400> 1325
tgattccgag ccgagccgcc gcggcgtccg acgacgttcc ggaagtcgcc ggatcggcac 60
cgaaggggca cgtacaacag cagcagcagc cgcaacaggt cggcgccggc gagcccaagt 120
acaggggcgt gcggaggcgg cggtggggca agtacaccgc cgagatcagc gaccccgtca 180
agaaggcccg cgtctggctc ggcaccttcg cctccgccga ggaggccgcc cgcgcctacg 240
acctcgccgc cgtccggttc cgcggctcca aggccaagac caacttcccc gcctccctct 300
acgac 305

<210> 1326

<211> 288
<212> DNA
<213> Eucalyptus grandis

<400> 1326
gtgctttgga gtcagcttcc tcctctgctt ccgaatattg acttctcgag aatacagctg 60
acttctcata ttcagagtcc gatcgtcgga gctcggcgcg ttcgataggg aattggctgg 120
cttcaggttc ctggggtctg tgctttggat gttaagctcg tagagactga atcgacgatg 180
gatggttcgc aaggaaaatc gaatgctccg gctccgttcc tggtcaagac ctatgagatg 240
gtcgatgatc ctcagacgga cttcctggtg tcctggagcg agagcgga 288

<210> 1327
<211> 190
<212> DNA
<213> Eucalyptus grandis

<400> 1327
gagagagatg gggctccgga ggatgacggg tcagtcgtcg tcccggtcgg gcgacccggg 60
cgcctccacc agcggcggcg gcggggcgga gtcgccgcgg cggttcgcgc cggcggctca 120
gccggagata atgagggccg ccgagaagga cgaccagtac gcctccttcc tctacgacgc 180
ctgccgcgac 190

<210> 1328
<211> 259
<212> DNA
<213> Eucalyptus grandis

<400> 1328
gtggtttcgg ctcgccgggc ccgttcgagg aggagcttcc gcggcggggt ggtggccatg 60
gccgcgcccg ggtcggtccg gaagtcggag gaggagtggc aggcggtcct gtcgccggag 120
cagttccgta tcctgaggca gaaggggacc gaatatccag gcacgggtga atacacaagt 180
tttctgaaga gggggtgtac aattgtgcag gatgtgggac tcctctttac cggtctacaa 240
ctaaatttaa ctccgctgc 259

<210> 1329
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 1329
gacaggggtt tctgtgttgg attgtgtgtg gagatttgga gggacgagtc atggcggatc 60
aggccttgga gggaagccaa ccggttgatc tgtccaagca tccttcagga atcgttccca 120
ctcttcagaa catagtctca acagtgaatt tggactgcaa attggatctt aaggccattg 180
ctttgcaagc tagaaatgct gagtataatc ccaagcgttt tgctgctgta attatgagaa 240
taagggagcc aaagacaacg gcattgatat ttgcttcagg gaaaatggtt tgtactggag 300
ccaagagtga acaacaatca aagttagcag cgcggaagta tgctcgaatc attcagaaac 360
ttggattccc ggctaaattt a 381

<210> 1330
<211> 347
<212> DNA
<213> Eucalyptus grandis

<400> 1330
ccgctctcct ccgccttccg ccaccgcaaa tccctccgat cgatcggcac gacacgaccc 60
gaaaacgacc ccggaaagcc tccgctcccc gcggcggaag atggcggcga gcgacgcgaa 120
gatcgggagg aggttagagg gcaaggtcgc catcgtcacc gcctccacgc agggcatcgg 180

cctcgccatc gccgagcgcc tcggcctcga aggcgccgcc gtcgtcatct cctctcgcaa 240
gcagaaaaat gtggatgagg ctgctgaaaa gctcagggca aagggtatag aggttttggg 300
cttggtttgc catgtttcca atgcacagca gaaggaaatc ccttgtt 347

<210> 1331
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 1331
gataagtcca aggggaaggc caagatcagc gcctcctccg cggccgagca ggagcaccgg 60
aagcgcgtgc tccgcgagct caactccctc atcgccgggc cctcctccgc cgccgccgcc 120
gcccccgacg acgccgtcga cgaggaggtc accgacaccg agtggttctt cctcgtctcc 180
atgacgcagt ccttcggcaa cgacggcagc ttgcccggcc aggccctgta cgggtcgacc 240
ccgctttggg tgtcgggcgg ggaccgcctc gccgactgcg gctgcgagag ggcgaagcag 300
gcgcggattt tcgggctcaa caccatggtc tgcgtcc 337

<210> 1332
<211> 325
<212> DNA
<213> Eucalyptus grandis

<400> 1332
gccaatggga gggaggagcc tctgaaccac gtcgaggcgg agaggcagag gagggagaag 60
cttaatcaga ggttttacgc cctcagggcc gtggttccaa atgtatcaaa gatggataag 120
gcttcactgc tccaagatgc ggagtcttat atcagggagc ttaacatgaa cctacaagct 180
gcagagtctg ataaggagga tttgaagaan cagttggatg aactaaagaa gcgatcatcg 240
gataaagaat gtatcccggt ggatcaagat cgcaagatgg caaaacctac gggaagtagg 300
tccactgggg tggcaatcga tgtga 325

<210> 1333
<211> 362
<212> DNA
<213> Eucalyptus grandis

<400> 1333
cagcatcatt ataatgtcca tgaagagaat cgactgcggc atcacgattt acattagttt 60
cgcctccctt ttcgcttgct gcacctgtgc aagcctttga cttcgtagag tcatgtgcgt 120
tccttgggca cccttctttg tagctggtgg agcagggggg gctacaacgg atgcttggga 180
gagtgatatg cgcgtctcat cagatgagaa accgggaata cgaatgttgt ggttgcgttc 240
aaggtgtagt tgcaggtcgc gcacttccaa agtgtcccca ccgcgatgct tagccaagcg 300
acacgcaaag ttggtgacgg aatcgatgaa ttcatcagca atagaaagca ggagatcttc 360
ca 362

<210> 1334
<211> 216
<212> DNA
<213> Eucalyptus grandis

<400> 1334
gtttacgcgg ttgttgatgg attacttaaa tgaatttgct tatgatgcac gggttgctgg 60
cctttattac agtgtgcatg acaccaacac aggttttcag gtcactgtgg ttggttatag 120
tcacaagcta aggatattgc tggaaaaagt catcgagaaa attgcaacct ttgaagtgag 180
acctgagaga tttgttgtga tcaaggaagt ggtgac 216

<210> 1335
<211> 326

<212> DNA
<213> Eucalyptus grandis

<400> 1335
gcngaatcag agcaactggg aggcggataa gatgctcgac gtttacatgt atgactactt 60
gatgaagaag aagctgcaca acacggcgaa gtcattcatg actgaaggga aggtgtcgcc 120
ggatcccgtt gcaattgatg ctcctggggg atttcttttt gagtggtggt cagtcttttg 180
ggatatattt attgcaagga ctaacgagaa acattctgaa gctgctgcag catatattga 240
ggcacaacaa ggtaaagcaa gagagcagca gcagcagcag cagcagcagc agcagcaaca 300
gcaactgcag atgcaacaat tgcatc 326

<210> 1336
<211> 382
<212> DNA
<213> Eucalyptus grandis

<400> 1336
aaacaatcga taatccttcc ttccatcttt cctcctcctc ccccccttga aatcccgaat 60
ccaccaccac aacccccccac cgccacctgc tcgttggtaa tctctctttt gcttctggag 120
agggaagtga agtgatctcg gatcagctga ctttggagaa tgatcctaaa gctggtattt 180
ctacattgag atcatcttta agagcgctgt ggttctctga tggcatctca tccatcaaat 240
cattcgtgtg ggcgccctca tcaaggtgcg tttgctgatg ctttatacaa agagctgtgg 300
catgcctgtg ctgggcctct tgtcaccctt cctcgagagg gagagcgtgt ctattatttt 360
ccacaaggtc acatggagca gc 382

<210> 1337
<211> 322
<212> DNA
<213> Eucalyptus grandis

<400> 1337
ctctctctct ctaggtcgct ctcgattctc gctggtctcg ccttcctcgg actatcttcg 60
cgatcgcttt tggaggatcg ttcggggaaa ttggaccgaa gtttcgattt ttagcaggcg 120
agatcagctg aatcgggaga tcagaataat ggagtctcac gatgagacag gatgccaggc 180
cccaaaaggc ccaatcctct gcattaacaa ctgtggcttc ttcggaagtg ctgccaccgc 240
caatatgtgc tcaaagtgcc acaaggacgt gatattgaaa caagaacagg cacaagcagc 300
tgcctcctcg attgagagca tt 322

<210> 1338
<211> 536
<212> DNA
<213> Eucalyptus grandis

<400> 1338
gttcgacgag ttcacagcga gctgacaaat cattgatcat ggagcatgag tttagttcgg 60
ctaaaatcaa agctcttctt gagattctac agtcgcaatg cagaggagaa agtgcaaatg 120
cagagcttca tggtcccatg ggctgtgacg atgagtctct ttttgaaaat acaggcaccg 180
gggattctac atacagagtt aaagctgtta agcacacaac tgtttattca agttctcctc 240
ctgaaggacc aattaaagca attgtctttt ctcagtggac gagtatgtta aacttggttg 300
aacaaaatct gatccatttt ggcataaatt atagacggct tgatggaaca atgacccttt 360
ctgcaagaga caaagctgtg aaagatttta acaccgatcc tgagatagtc gttatgctaa 420
tgtcattaaa agcaggaaac cttggtctaa acatggttgc tgcttgtcat gttattcttt 480
tggatctttg gtggaatcca accactgaag atcaagctat cgatcgagct cataga 536

<210> 1339
<211> 438
<212> DNA

<213> Eucalyptus grandis

<400> 1339
cgacttcaag gagtaccgac ttcgctgcga gctgcgcggc cacgaggacg atgtccgggg 60
cgtatgcgtg tgcggggacg gcagcatcgg gacctcgtcg cgggatcgga cggtgaggct 120
gtgggctccg agcgccggcg agaggcgcaa gtacgaggtg gcgagggtgc tgttagggca 180
caagagcttc gtgggtcccc tggcgtgggt tccgcccagc gaggagcttc cggagggcgg 240
gatcgtgtcc ggcgggatgg acactctcgt gatggcttgg gatttgagga atggagaggc 300
gcagacgttg aagggccatc agttgcaggt caccggcatc gtgttggacg gcggcgacat 360
ttgtttctgc ctcttgttga ttgtacctta ataagatgga agaatggcca gcttacggag 420
cactgggagg ctcattaa 438

<210> 1340
<211> 533
<212> DNA
<213> Eucalyptus grandis

<400> 1340
ctttggaggc cctcagctcc cccaccgctc cctccgcccc gttccaattc atgaaggact 60
cctccccgc cgccgccgcc gccgcctcct cctcctcctc cgcctacgac ctcccctcg 120
ccgagccctg ggccaagcgc aagcgctcca agcgccccca caacccgccc tccgaggacg 180
agtacctcgc cctctgcctc atcatgctcg cccgcggcgg cgccggccgg accctccccc 240
cgccgcctcc ccccgcggtc tcttccgagg cggccaaggt ggcctacagg tgccccgtct 300
gcgacaaggg cttcccctcc taccaggccc tgggcggcca caaggccagc caccgcaagc 360
acgcctcctc cgcctcggcc gccgccgggg gtgacgacca gccgaccacc tcgagcacct 420
ccgcggcgac gacctcctcc ggcgtctccg ggaaggtcca cgagtgctcg atctgccaca 480
agagcttccc accggccagg cgctcggcgg gcacaagcgg tgccactacg agg 533

<210> 1341
<211> 363
<212> DNA
<213> Eucalyptus grandis

<400> 1341
gaagcatttg ggaagtggac atggaaggaa agatcccgac tttggtactg tttctctgca 60
tcttctcggc tgccgtcgcg gccgagtacg tgcggcccca gcctcgcgag accctcgatt 120
tcccgtggga ccgcaagccc tcctcttatc cccagcaggt tcacatttct ttagctggag 180
atggacatat gcgcatttca tgggtcactg atggtaaatc ttccccttca tacgtggaat 240
acggaacatc gcccggtcga tatgactcta cagctcaagg agagagcact tcttatagtt 300
atctatttta tagctctgga aagatacacc acacggtgat cgggccattg gagagcaaca 360
ctg 363

<210> 1342
<211> 316
<212> DNA
<213> Eucalyptus grandis

<400> 1342
cctggcctct gccttagctc tcctcctcgt cctcgccctt atcaagctat tcagacccaa 60
aaccaaccac ctgaacctcc cgccggggag atttggatgg ccaatcattg gcgagagcct 120
ggagttcctc cgttcccagc ttgaagggag cccggagaag ttcatcaagg accggatgac 180
caagtacaac tcccctgtgt tcaagacctc ggtgctcggg gagccgatgg tcatcctgtg 240
tgggccggcg gggaacaagt tcctgttctc aaacgagggc aagaaggtgg tgctgtggtg 300
gccgagctcg gtccat 316

<210> 1343
<211> 322

<212> DNA
<213> Eucalyptus grandis

<400> 1343
aggtgttccg atcttcatag aagatgatga tgttgagctg ttgtggcctg gcagcttccg 60
tcaggcggca caagcacacg ctcctcaacc gagttttgtt ctaactggag gttctaacat 120
aagcttcgtc ggggtgaatc caccatctga tgcaggcaat tcagctcctg acttgacact 180
gaaactttaa aagaggttaa tcttcagtta agtctcatgt ttgcttaacc caacattgca 240
cttctgcttt cttttggtat attcccaaat gttctttcca gttcctttcc tgtaagtgct 300
cactccagta tgaagtctat aa 322

<210> 1344
<211> 323
<212> DNA
<213> Eucalyptus grandis

<400> 1344
ctggaccgcc acctgaagac cctgaccggc cacgtcgccg ccgtctcctg cgtcaagttc 60
tccaacgacg gcaccctcct ggcctccgcc tccctcgaca aaaccctaat catctggtcc 120
tccaccgccc tctccctcct ccaccgcctc gtcggccact ccgagggcgt ctccgacctc 180
gcctggtcct ccgactccca ctacatctgc tccgcctccg acgaccggac cctccgcatc 240
tggtcctccc gctccccctt cgactgcctc aagaccctgc gcggccacac cgacttcgtc 300
ttctgcgtca acttcaaccc gca 323

<210> 1345
<211> 235
<212> DNA
<213> Eucalyptus grandis

<400> 1345
cctccgcccc gttccaattc atgaaggact gggtaccccg ccgccgacgc cgccgcctcc 60
tcctcctact acgaatacaa cctccccctc gccgagccct gggccaagcg caagcgctcc 120
aagcgccccc acaacccgcc ctccgaggac gagtacctcg ccctctgcct catcatgctc 180
gcccgcggcg gcgccggccg gaccctcccc ccgccgcctc cccccgcggt ctctt 235

<210> 1346
<211> 350
<212> DNA
<213> Eucalyptus grandis

<400> 1346
gtttggagga agttcaagct atgggaagga tgctcaaagc ccgcaggaca tgcatgattc 60
acggccgaca aaacgaccac gtaatgttgg ggagccttat cgtgacccag gacaggctga 120
gccgatggag gaacatggaa tgggatcagc aagtgatcct atggtgcggg caggcagatc 180
ggacggaggt cataatccaa ttatgtcggc caccgctccc gcaaatgtgt ctacggctgg 240
gagaggtcgg gtagatgata aaaacaatcg caaattgtcg tgtaaagagt gtcgtaggct 300
aaaactcaag tgcgaccgcg ttttcccttg ccagtcatgc gtcaagagag 350

<210> 1347
<211> 197
<212> DNA
<213> Eucalyptus grandis

<400> 1347
cggactcgga ctggccgagt caacccacgc cccccgcgag tcccgacccc ccggcgccat 60
gacgcggcga tgctcccact gctgcaacaa gggccacaac tccaggacct gccccgtccg 120
cggcggcggc ggggacggcg ggggcgcggc ggccgccccc tcctcctcct ccccctccac 180

ctcctcctct ggcgccg 197

<210> 1348
<211> 315
<212> DNA
<213> Eucalyptus grandis

<400> 1348
cgctggtctc gcttcctcgg actatcttcg cgatcgcttt tggaggatcg ttcggggaaa 60
ttggaccgaa gtttcgattt ttagcaggcg agatcagctg aatcgggtgt ccttttgcag 120
gtgatcagaa taatggagtc tcacgatgag acaggatgcc aggccccaaa aggcccaatc 180
ctctgcatta acaactgtgg cttcttcgga agtgctgcca ccgccaatat gtgctcaaag 240
tgccacaagg acgtgatatt gaaacaagaa caggcacaag cagctgcctc ctcgattgag 300
agcattgtca acaga 315

<210> 1349
<211> 329
<212> DNA
<213> Eucalyptus grandis

<400> 1349
gagagagatg gggctccgga ggatgagggt cagtcgtcgt cccggtcggg cgacccgggc 60
gcctccacca gcggcggcgg cggggcggag tcgccgcggc ggttcgcgcc ggcggctcag 120
ccggagataa tgagggccgc cgagaaggac gaccagtacg cctccttcct ctacgacgcc 180
tgccgcgacg ccatccgcca cctcttcggc accagagtcg ccgtggcgta tcaaagcgag 240
acgcagcttc tcgggcaaat gctgtactat gtgctgacga ctggttcggg gcagcagacg 300
ttgggggaag agtactgcga catcactca 329

<210> 1350
<211> 313
<212> DNA
<213> Eucalyptus grandis

<400> 1350
tctaggtcgc tctcgattct cgtggtctcg ccttcctcgg actatcttcg cgatcgcttt 60
tggaggatcg ttcggggaaa ttggaccgaa gtttcgattt ttagcaggcg agatcagctg 120
aatcggaata atggagtctc acgatgagac aggatgccag gccccaaaag gcccaatcct 180
ctgcattaac aactgtggct tcttcggaag tgctgccact gccaatatgt gctcaaagtg 240
ccacaaggac atgatattga aacaagaaca ggcacaagca gctgcctcct cgattgagag 300
cattgtcaac aga 313

<210> 1351
<211> 305
<212> DNA
<213> Eucalyptus grandis

<400> 1351
ccccgcccac ttatctgcta tcctcgctac ttcgctctat tagtacctcc acaatcccat 60
gcgcaaacgc caacgcaccc tcgacatgca cgccggcgca ccaggtccca acgatgccat 120
tgacgcgaac agcgtcggcg acaacgcgtt catcgcggat cacgacgcaa ttgactcggc 180
cggcgacgac gacnacnacn aagacaagcc caagaccggc cagaagcaag gccgccgcaa 240
aataaagatc gagtttatac aggacaaatc gagacgccat atcaccttct ccaaaaggaa 300
agctg 305

<210> 1352
<211> 517
<212> DNA

<213> Eucalyptus grandis

<400> 1352
gtccctccct agggtttcct cctcgtcgac cgccccttct ccgagcccta gcctcgcgcg 60
gcaaaggccc ctccctccgt ccctccctcc gccgccatga tgcagcagcc ggtccccgga 120
gccgtccccg accagcagca gcagtaccag cagcagcagc agcagcagtg gatgatgatg 180
cagcaggccg cccagcccgt gcccccgccg gtgggctgga ccccgcagcc ggtcccgccg 240
cccatggcgg cccagtcgat ggccggcggc gcggcggccg agatcaagtc gctctggatc 300
ggcgacctgc agcctcacat ggacgagacc tatctcctca actgcttngc ccactccggg 360
gaggttctct cagctaaggt gattagaaat aagcagactg ctctgcccga gggttacggt 420
ttcattgaat ttatgacccg tgcagcagca gagaggattt tgcagacgta caatggcaca 480
ttgatgccaa attctgacca gaatttccga ctgaact 517

<210> 1353
<211> 472
<212> DNA
<213> Eucalyptus grandis

<400> 1353
tttttttttt tttcagctaa attggagcag ctctctttaa tacttactga actagtaatc 60
atggtgaaag aaacttagac agaaagtgag gacattacat catactcctg aagagcatca 120
aaggcccagc taacagaaaa aggccgatac ggcaacatcc aaacaaatta aaagccaaat 180
tgtgacccca acgctaccat ccatatacaa tgccataact aaatcattca ccttccgaca 240
tctactctct ttctacttga atggtgacgt gacttatctt gtactctctt ctaatgtagt 300
ccacaacctt gtccaggacc atatcggcat tggcgtcacg ctttattttg acatggcagg 360
ctaatagtac ctttccaacc gttatagccc agatgtgcaa ttcatggact gcaatcactt 420
catcgatctt gcaaagtcca ctctcgagcc tagtggcatc aatctctcta gg 472

<210> 1354
<211> 472
<212> DNA
<213> Eucalyptus grandis

<400> 1354
ccatcgtcac ctgtatccac aaaaacacac ccaccttacc tctgcacccg ccccacccgc 60
ctatcgcagg gcctgcgata cagacgcttg gctgccaagc atgaagagaa gccctccgct 120
gtgctcgaca aatcccaaga tcccacagac agcgcaaagc catccaagaa gccccgccat 180
cgtcacagtc ccacccagct cgctgccctc aacgaactct ttgagaaaag cgaacacccc 240
actcttgagg agcgaggcca gttggctgag aaattaggaa tggagaccaa gaccgtcaat 300
gcatggtttc agaacaagcg tgcttctact aagaagcgca ataagggggg aacctcggaa 360
cctcacccag ccacgagtca gaacgacttg tccgaagatg ctctcaaaac cccttccgca 420
ctgccgtcga tagcgaacct gctcaacgac gcaccctcat cggcctcgcc gc 472

<210> 1355
<211> 503
<212> DNA
<213> Eucalyptus grandis

<400> 1355
cacgcatcca acttcatcag gaaggagctg agggccatca tcaagcagag gaagctggac 60
ttggcagaag gcagggcgtc ggcgactcag gacatattgt cgcacatgct gttggccacg 120
gacgaagatg ggaagcacat gaacgagatg gacattgctg acaagatctt gggcttgttg 180
atcggggggcc acgacactgc cagtgccgcc tgtaccttca tcgtcaagta ccttgccgat 240
cttccccaag tctacgaggg agtctacaag gagcaaatgg agatcgccaa gtcaaaagcc 300
ccaggagagt tgttgaactg ggatgacatc cagaagatga gatactcatg gaatgtggcg 360
tgtgaggtgc tgcgattggc gcctccgctc cagggagcat tcagagaagc cctcaatgac 420
ttcatcttca atggtttctc cattcctaaa ggctggaaga tctattggag tacccactcg 480

actcacagga gcccagagta ctt 503

<210> 1356
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 1356
atcttcttct cccccaaaac cccatcggac ccaaaaaccc taacgaagat gaatagggag 60
aggcttatga agatggcggg ttctgtccgc actggtggaa agggtaccat gagaagaaag 120
aagaaggctg ttcataagac caccacgaca gatgataaaa ggcttcaaag caccctgaag 180
aggattgggg tgaatgccat ccccgcaatt gaagaagtca acatttttaa ggatgatgta 240
gttatccagt ttttgaatcc caaagttcaa gcgtctattg ctgcaaatac ctgggtagtt 300
agtggttctc ctcagaccaa gaagctacag gatatcctcc ctggcatcat caaccaatta 360

<210> 1357
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 1357
aaaacaacct ccctcagctc ctcttcacca ctggtttttg agatgatctg tgtgctcggc 60
gccgttgatt attatgtctt attctgactt gctgaacctg ctgtttgccg tgggcgtttg 120
gtgcaccgcg tatattgcgg ctgccgttct cgagtcgctc cgggtcttcc atactctctg 180
ttcgttttga tttcgatagc tgttttcgaa ggctaagatg ggctacgcac agctggtcat 240
cggccctgcc ggcagtggca agtcgactta ttgctcgagt ttgtatcaac attgtgaagc 300
tattgggcgg acaatacaca ttgttaacct agatcctgca gcaaagaact ttgactatcc 360
tgtggccatg gatatca 377

<210> 1358
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 1358
ctctgacgat ggatataact ggagaaaata tggacagaag catgttaagg gctgtgaatt 60
tccacgcagc tattacaaat gtacctatcc taattgtgag gtgaaaaagc ttttcgaacg 120
tgctcctgat ggacatatta cagagattat ctacaaagga actcatgatc accctaaacc 180
acaaccaagc cgccgcttta ctggaggagc gaccatgcca atccaagaag aaagatctga 240
taggttttca tttatacctg cagtggagag cacatcgacc gtatatggcg agacatctta 300
taatgttgag actgatggta ctcctgaact atctcctgtt gctgagaatg acgaaactat 360

<210> 1359
<211> 347
<212> DNA
<213> Eucalyptus grandis

<400> 1359
gttccaccac gctcgtcccg ctcccgcatt tctgaaatcg cgatcgccgt cttcaacctc 60
gggaaaaacc ctagcggatc ccctccggtc gccaattcat ctcctgatcc ccgccgtcgc 120
ccatgccgcc gtcgatcccg ccgcgccccc tctcgccgtc gatctccagc tgatcgcgcc 180
tccgattttg ctcccccgccc cggcgcgatg gtggtctgca aatgccgcaa ggctacgaag 240
ttatactgct tcgtgcacaa ggtccctgtg tgtggagaat gcatatgctt tacggagcac 300
caaatatgcg tggttcgtac ttactcagaa tgggttatag atggcga 347

<210> 1360
<211> 326

<212> DNA
<213> Eucalyptus grandis

<400> 1360
ctcctcctcc ccctccacct cctcctctgg cgccgcggcn gcggcggcgg cctcngcctc 60
cggcggcggg gtgaagctgt tcggggttag gttaacggac gggtcgatca tgaagaanag 120
cgccagcgtg gggtgcctgt ccgccgccca ctaccactcc tcgtcctccg ccgcggcatc 180
cccgaacccc ggctcgtccc cgatcgacgg gagcgacggc tacctgtccg acgatcccgc 240
gcccggctcc cgctcgtcca atcggcgcgt cgagaggaag aaaggtatcg aggattttga 300
ttgacgcgcg gctccctgat tccctg 326

<210> 1361
<211> 526
<212> DNA
<213> Eucalyptus grandis

<400> 1361
atcccactcc ccatccgctc cgcctgaatc ctctcctggg aaaattaggg tttctgcaag 60
ctccggattt tcgctccctt ttgggggtcc tcgatttgat gataagccat ggatgcctgg 120
ggtcgtgcta gtgtgctgcg cgcgctcctg tggctcgcct tgcttggggt tggccgcacg 180
gcgtcggcga gcgtcgtcct gatcggcagc aacgtcaccc tctccttcgc cgccgtcgag 240
gctgaattcg ctccgccgat taagggttct ggggtttgcg gcgtgctgta tcttgcggac 300
ccgatcgatg cgtgctctca attggtgaat gaggccaacc ggttgccgaa tgctagctcc 360
cctttcgccc taattgttag ggaggaggaa tgtagtttcg aagagaaagt taggagagct 420
caaaaggctg gattcaaagc ggctattgtc tatgacaacg aagctgatgg caacttggtg 480
ccaatggctg gacattcagc tgggataaag atccatgctg tgttcg 526

<210> 1362
<211> 307
<212> DNA
<213> Eucalyptus grandis

<400> 1362
gacccgcata cccgctgcca atctggagga cctatttgac aaccataaca tggctcgaat 60
acgggacgta tgggccccga atcttgagat agagatgcag aacatccgcg aggccatcga 120
gaaatactcg tatgtttcaa tggacaccga gttcctggag tggtggcgcg gcccataggt 180
aacttcaaaa cgtcctcgga ctaccactac cagacgatgc gctgtaacgt cgaccttctc 240
aagatcatcc aagtcgggat cacgctggca gacgaggagg ggttgttccc gcaggactgc 300
tctacgt 307

<210> 1363
<211> 353
<212> DNA
<213> Eucalyptus grandis

<400> 1363
cttgaaggtg acttcaacaa acacgatgag gataactgga tccaagaaga gtttgagaac 60
catgtggnta aacaacgtga aggaaagagg ccgcttttga ctggagatct cctagtgaag 120
ctcgaaagag gtgttgggaa gctgggaagt ttcatgttta ctgacaattc cagctggaat 180
aggagtaaaa gtttcaggat agggcttaag gtggcctcag gttattgtgg gaacacacga 240
atccgagaag caaaaacata agccttcact gtgagggagc atagaggaga atcatataag 300
aaacattatc cacctgcacc tgacgattaa atctggaggt tggagaagat cgc 353

<210> 1364
<211> 324
<212> DNA
<213> Eucalyptus grandis

<400> 1364
cctcgcccgg caaaaccgat tcgaggtcga gagtcgagta aagatgaatg tggagaagct 60
tatgaagatg gcgggttcag tccgcactgg tggaaagggt accatgagaa gaaagaagaa 120
ggctgtgcac aagacaacta ccacggatga caaaaggctc caaagcactc tcaaaagaat 180
tggggttaat gctattcctg caattgagga agtcaacatt ttcaaggatg atgttgtcat 240
ccaatttgta aatcccaaag ttcaagcctc tattgcagcc aatacatggg ttgtcagtgg 300
tgctcctcag accaagaaat tgca 324

<210> 1365
<211> 306
<212> DNA
<213> Eucalyptus grandis

<400> 1365
gacaaattga tgaaacatga atatggatgg gtgtttaaca ctccggttga tgtaaagggc 60
ctcggtttgc atgattacta tagcatcata aagcatccaa tggacttggg cagtgtgaag 120
acaaggctga accggaactg gtataagtca ccgaaagaat ttgcagagga tgtcagactt 180
acgttccgta atgccatgac atataaccct gaagggcaag atgttcatgt catggctgag 240
attctgtaca agatatttga ggatagatgg gccattatag agtcagatta taatcgtgaa 300
atgcgg 306

<210> 1366
<211> 345
<212> DNA
<213> Eucalyptus grandis

<400> 1366
cggccgcctg cagctttccc ctccgtgtcg acacgacgac gactccgccg ccgctccccc 60
ctcgcgtcgt ctctccttct ctcgccctgt atatatctct cgtcccccga caaaaaaagg 120
agaaatctga agagagggga ctgaaattag gttattgaga aggattcttc ccgtgaccaa 180
tcttttggag aaagatggct tctcaattta atttcaaagg cataaccgat gcatcgcaag 240
ctgaaggagt agctgggaaa tcacacggaa atcactcttt aactcggcag ccatcaatat 300
atgctttgac ttttgatgag tttcaaaaca catggggtgg gcttg 345

<210> 1367
<211> 292
<212> DNA
<213> Eucalyptus grandis

<400> 1367
cgaaggtctc acatttatga aactcaaggt ctgaaggatg catttattat atgtctcaat 60
gccgtagagt ccattgatgc aactaaaaag gggagccttg ctaggttcat aaatcattca 120
tgccagccaa attgtgagac aaggaaatgg aatgtattgg gggagataag agttggcata 180
tttgccaagc atgacattcc tgctggatct gaattgtcat atgattataa cttcgagtgg 240
tatggtggag ccaaggtccg ttgtctctgt ggtgcaccta gctgtctggt tt 292

<210> 1368
<211> 278
<212> DNA
<213> Eucalyptus grandis

<400> 1368
ctgcaacgac ctgacggcgt tgcggcggtt cctgccgtcg aaccaccacc aggacgagga 60
ggacgaggag gacgggcggg cgcccgggga ggacggcgtg ctgggctgcg acgagttccg 120
gatgtacgag ttcaaggtga ggaagtgcgc gcgcgggagg tcgcacgact ggacagagtg 180
cccgtacgcg caccccggcg agaaggcgcg acgcagggac ccgcgccggt tcttctactc 240

cggcactgca tgtcctgatt tccgcaaagg cgcgtgca 278

<210> 1369
<211> 328
<212> DNA
<213> Eucalyptus grandis

<400> 1369
ttcacttcgt cgcctgcctc gtcgtcctcc ctgtcctcct cgcgaatctc catcggcgag 60
aactctgata aagcatccct cggctatctg tcggatggcc tgctgggtag atcccaagag 120
aagaagaaag gagttccatg gacagaggag gaacacagaa ccttcttggt ggggcttgag 180
aagcttggga agggtgattg gagaggcatc tctaggagct atgtgaccac aagaacaccg 240
gcccaggttg caagtcatgc tcagaaatat ttcctccggc aagtgagctt caacaagaaa 300
aagcggcgct cgagcctctt tgacatgg 328

<210> 1370
<211> 96
<212> DNA
<213> Eucalyptus grandis

<400> 1370
tgaattcggc ggggagttaa tgaatccaag aagcaactgg ctaattgtat ataatgatga 60
tgagggngac atgatgcttg ttggggatga cccgtg 96

<210> 1371
<211> 320
<212> DNA
<213> Eucalyptus grandis

<400> 1371
agagagagaa gaacccttct tcacaaacct ctctctctct ctctctctct cttcccctgt 60
gtctgtcgat tctcgctggt ctcgcgttcc tcggattgtt tcgatcgcgt acgctgaatc 120
gcgccgggaa ttcggccgtg gtttcgattt tgtcgagcga gatcagcaga atcaggagat 180
caggacaatg gagtctcaca atgagacagg atgccagcct ccaaaaggcc caatcctctg 240
catcaacaac tgtggcttct ttggaagtgc tgccactgcc aatatgtgct cgaagtgcca 300
caaggatgtg atgctgaagc 320

<210> 1372
<211> 343
<212> DNA
<213> Eucalyptus grandis

<400> 1372
cggccgcctg cagctttccc ctccgtgtcg acacgacgac gactccgccg ccgctccccc 60
ctcgcgtcgt ctctccttct ctcgccctgt atatatctct cgtcccccga caaaaaaagg 120
agaaatctga agagagggga ctgaaattag gttattgaga aggattcttc ccgtgaccaa 180
tcttttggag aaagatggct tctcaattta atttcaaagg cataaccgat gcatcgcaag 240
ctgaaggagt agctgggaaa tcacacggaa atcactcttt aactcggcag ccatcaatat 300
atgctttgac ttttgatgag tttcaaaaca catggggtgg gct 343

<210> 1373
<211> 310
<212> DNA
<213> Eucalyptus grandis

<400> 1373
ctccccctcg ccgagccctg ggccaagcgc aagcgctcca agcgccccca caacccgccc 60

tccgaggacg agtacctcgc cctctgcctc atcatgctcg cccgcggcgg cgccggccgg 120
accctccccc cgccgcctcc ccccgcggtc tcttccgagg cggccaaggt ggcctacagg 180
tgccccgtct gcgacaaggg cttcccctcc taccaggccc tgggcggcca caaggccagc 240
caccgcaagc acgcctcctc cgccgcggcc gccgccgggg gtgacgacca gccgaccacc 300
tcgagcacct 310

<210> 1374
<211> 306
<212> DNA
<213> Eucalyptus grandis

<400> 1374
agcaagcaaa agaagaaacc agaaaaatca gacaccccga tttcacattc tctactacag 60
aattccggag atggtgaaga gagacagaga ggacacggag gtcgaagccc tggccagggc 120
caattgcttg atgctcctct cccgtgttgg cgagagcacc gactcggcgt cgccggaccg 180
caaatcgcgg cctacagagc gaatgttcgc ctgcaacact tgcaaccgcg agttctnctc 240
gttccaggcg ctcggagggc acaaagccag ccacaagaag cagaagctga tctccggtga 300
cctctt 306

<210> 1375
<211> 273
<212> DNA
<213> Eucalyptus grandis

<400> 1375
cctcctcctc ctgctgcggc tacgacctgc ccctcgccga gccctgggcc aagcgcaagc 60
gcttcaagcg cccccacaac ccgccctccg aggacgagta cctcgccctc tggctgatca 120
tgctcgcccg cggcggcgcc ggccggaccc tacccccgcc gcctcccccc gtggtctctt 180
ccgaggcggt caatgtggcc tacaggtgcc ccgactgcga caagggcttc ccctcctacc 240
aggccctggg cggccacaag gccagccacc gta 273

<210> 1376
<211> 319
<212> DNA
<213> Eucalyptus grandis

<400> 1376
gacaaatgag aaccctagga cgccttcagt cgacaaggag agcactactc caaggacgtc 60
gaaatcagaa gaggagcaga gcgacacgag caactcgcaa gagaaggtgc tcaagaaacc 120
tgacaagata cttccttgcc ctcgatgtaa tagcatggac accaaattct gttactacaa 180
caactataat gtgaaccagc cccgacactt ctgcaagaac tgccagagat actggacagc 240
tggtggaacc atgaggaatg ttcctgtggg tgctggccgc cgcaagaaca agaactcggc 300
atctcattac cgtcatcta 319

<210> 1377
<211> 339
<212> DNA
<213> Eucalyptus grandis

<400> 1377
tctctctctt cgtttctccc gtttctctct ctctacctct cgccaagaaa ccgccaggaa 60
aggaaggaag gtaaaaagaa aagaaaagga agccatggct ccgagagaaa agcccagcgt 120
cgccgccatc ccaaacccta acggcgctaa ggaaatccgt ttccggggcg tccggaagag 180
gccctggggc cgctacgccg ccgagatccg ggaccccggc aagaagaccc gggtgtggct 240
cggcaccttc gacacagccg aggaggccgc ccgcgcctac gacaccgccg cccgcgagtt 300
ccgcggcgcc aaggccaaga ccaacttccc cacctccgc 339

<210> 1378
<211> 343
<212> DNA
<213> Eucalyptus grandis

<400> 1378
ctttgacgcg cattaaattc ccgcgactcc gaaatatctc acctccctct cccgcagaat 60
ccctagattc cttccttagc tcctcctctc tccctctctc tctctctctc tctatagaaa 120
attcctcatc tttggtggcg gcgagaggcg gttgcgaggg atttccggtc gcgggtgtat 180
gtgcgtgggg ttggggttgg ggtgggggag atgaagattc agtgcaacgt gtgcgaggcg 240
gcggaggcga gcgtcctctg ctgcgccgac gaggcggcgc tctgctgggc ctgcgacgag 300
aaggtgcacg ccgccaacaa gctcgccagc aagcaccagc gcg 343

<210> 1379
<211> 368
<212> DNA
<213> Eucalyptus grandis

<400> 1379
ctcgattctc gctggtctcg ccttcctcgg actatcttcg cgatcgcttt tggaggatcg 60
ttcggggaaa ttggaccgaa gtttcgattt ttagcaggcg agatcagctg aatcgggaga 120
tcagaataat ggagtctcac gatgagacag gatgccaggc cccaaaaggc ccaatcctct 180
gcattaacaa ctgtggcttc ttcggaagtg ctgccaccgc caatatgtgc tcaaagtgcc 240
acaaggacgt gatattgaaa caagaacagg cacaagcagc tgcctcctcg attgagagca 300
ttgtcaacag aagttccaac gaaaatggta aaggacctgt ggcaactgaa aattggattt 360
gcaagctg 368

<210> 1380
<211> 362
<212> DNA
<213> Eucalyptus grandis

<400> 1380
gaggctcagt acttcgtgta gccatggggc atgaaagtga agcatttgaa gagtttgttg 60
atgcgcacaa aacttgcttg aatgatctca tgttcttccc tactcgtaat gccttggact 120
ctcaagtgtt gctgcaaatg cagaaaagct tgctgccttg cagaacgaat atcattttgc 180
taaagcaagg attgatgaag atcatgagaa ggcgcagcga ctggagaaga aggtcaaaac 240
tctcacattc ggctatcaga tgcgggagaa gactcttcga gaccaaattg agtcaacctt 300
caagcagctg gacactgcag ggacagaact cgagtgtttc ccagctctgc agaagcaaga 360
gc 362

<210> 1381
<211> 459
<212> DNA
<213> Eucalyptus grandis

<400> 1381
tgctcgcaaa gtttgtttct ttgctcacaa gcccgaagaa ttaaggcctg tctatgcttc 60
gacgggatca gctatgcctt ccccaaaatc ctactcatca agtgggctgg acatgtccac 120
attgagtcct ctctcaatca gttctccgtc agcatcgttg cctgttactt caacagcacc 180
catgtctcct cttgcagcct cgtcatctcc gatgtctgtg aacatgtggc agagcaaggc 240
taacaagctc tccccgccaa tgctgcagct ctcaggtagt aggctgaaga ctgctttgag 300
tgctagggac ttggacctgg agatggaatt gcgtggtcta gagagtcaga tggccactca 360
acagcatcag ttgatggaag agatatctcg tctctcctca ccatcatcct gctttagtag 420
taggattggg gaagtgaaac ccactaacct cgatgacgt 459

<210> 1382

<211> 319
<212> DNA
<213> Eucalyptus grandis

<400> 1382
aaaaaaagaa gcataacttc aacgagcgaa tctccctctg tctctggttc atctttggtt 60
cttcaggctc agaaccatgg ctcagactgt tgttctcaag gttaaaatgt catgtcaagg 120
ctgcgctgga gctgtcagaa gggtcctgga aaaaacggaa ggtgtggaaa catttgacat 180
cgatctgaag gaacagaagg tgacagtcaa gggcaatctg cagcccgatg ctgtcctgca 240
aaccgtctca aagtccggaa aacaaactgc tttctgggaa gcggaagccc cagcccaacc 300
cgaagtgaag cccaccgaa 319

<210> 1383
<211> 408
<212> DNA
<213> Eucalyptus grandis

<400> 1383
cttgctttcc tcttgttggt ccaacgcaga gagaagagag agagagagag gtggaagaag 60
atcaatctcg tatctgaccg gcgaccggtg gtgctcttca tcttctccac ctcatcctct 120
ctctctagag aaccgaaagc cggcgtcttt cgtcgtctcc ggttcggcat gaacgggaag 180
gccaacgtct ccaaggagct caatgcgcac cacagaaaga ttctcgaagg gcttctcaaa 240
ttgcctgaga acagggagtg tgctgattgt aaggccaaag gtccaagatg ggctagtgtc 300
aatttaggga tatttatatg catgcaatgt tcaggaatcc atagaagtct tggggtacac 360
atatcgaagg tccgatcagc tactttggac acatggcttc cagagcag 408

<210> 1384
<211> 315
<212> DNA
<213> Eucalyptus grandis

<400> 1384
gcaaaattgg gccccttcaa aattactggg aggtcttctc ctaaatgcct agaaggatcc 60
gatggaagaa atttgcagct acaattcagg accaggttgt cgctcccgct ctttactgga 120
ggcaaagtgg aaggcgagca aggtgctgca atccatgtcg tcttaatgaa tgcagataca 180
ggctgtgctg tcacatcagg tccagagtcc tctgtgaagc ttgatgttgt tgtccttgaa 240
ggggatttca acaatgaaga tgatgacact tggactcagg aagaatttga cagtcatgta 300
gtgaaagaac gtgaa 315

<210> 1385
<211> 375
<212> DNA
<213> Eucalyptus grandis

<400> 1385
gttctcgaga acccagctcc atcccagttc gacccatctg agaacaagtc aacccagatc 60
gtcaaaatcg aatcttgact cgagggagaa gcggagaatg acgaagcgca gcgcagccaa 120
ggccgcggcg gtgcacgagg gcgagggagc gaggagcgag ctgaagttca gaggggtgcg 180
gaagaggaag tggggcaggt gggtctccga gatccgcctg cccaacagcc gggagaggat 240
ctggctcggc tcctacgaca cccccgagaa ggcggcccgc gccttcgacg ccgccgcctt 300
ctgcctcggc cgccccgccg cgaagctcaa ctnccccggc agccccccgg agatctccgg 360
cgcggcgtcc ctctc 375

<210> 1386
<211> 332
<212> DNA
<213> Eucalyptus grandis

<400> 1386
ccgaatacca ccaccgcgaa aatgatgatc ggcgagtccc gccaccaccc cctccacccc 60
acgacggttt gcatccctcc tccgctgtgg ccgtccctcg acgatcccgc cgacgagatc 120
tccccgcct tcgacgcgga ccacctcgcc gccgtcgccg ccgcttctag tccgtacgct 180
ctgcaggaca tcatcgcggc gctgcgccgc caccagtccg acccggactc cgacggcccc 240
gactcgccgg tggacctcta cacgtccgat cacttccgca tgtacgagtt caaggtccgg 300
cggtgcgcgc gcggcaagtc ccacgactgg ac 332

<210> 1387
<211> 320
<212> DNA
<213> Eucalyptus grandis

<400> 1387
ggaacctttt tggttttttt ttggcgctcg ggcaccggtt cgggagtttg gctgcaatgg 60
ctggntgagg cacagaatga ggttgcagta tcaagtgcct tgttcaccgt tcccaatcgt 120
ccttccaaag ttgggtcaca attggaagct gtggataatc tgaaagagtt gcaggtcctg 180
gaaaatgacc agacacctaa ggtgaggaag ccttacacca tctccaagca aagagagaaa 240
tggacggacg aagagcatga gaggttcctt gaagctttga aactgtatgg ccgcggttgg 300
cgtcagatag aagagcatgt 320

<210> 1388
<211> 409
<212> DNA
<213> Eucalyptus grandis

<400> 1388
ttcagttagt gctcttccac cctctaaagc ctcatttctt cgtcgcaacg cagcagtacc 60
gtccggatat acaacctgtc cgagcaaaaa ttgttgaaga cgctgacgcc tggtatcaaa 120
tggatatctt ccatggatgt tcacccgtcg ggcgatcatc tcatcgttgg tggctacgac 180
cgaaaactgt gctggtttga cctggaactc agtgacaagc catacaagat tttacgatat 240
cacacacgcg ccattcgttc tttggcgttc cacccaacat atccactatt tgcgtcctcg 300
tcggacgacg gcgctatcca ggtgttccat tccagagtgt ataacgacct gatgacggat 360
cctttgatcg tccctctgaa aattctccga ggacatactg taaaggaag 409

<210> 1389
<211> 313
<212> DNA
<213> Eucalyptus grandis

<400> 1389
cggactcgga ctcggccgag tcaacccacg ccccccgcga gtcccgaccc cccggcgcca 60
tgacgcggcg atgctcccac tgctgcaaca agggccacaa ctccaggacc tgccccgtcc 120
gcggcggcgg cgtcggcggc ggggacggcg ggggcgcggc ggccgccccc tcctcctcct 180
cccctccac ctcctcctct ggcgccgcgg cggcggcggc ggcctcggcc tccggcggcg 240
gggtgaagct gttcggggtt aggttaacgg acgggtcgat catgaagaag agcgccagcg 300
tggggtgcct gtc 313

<210> 1390
<211> 329
<212> DNA
<213> Eucalyptus grandis

<400> 1390
cgagaatcca gctccatccc agttcgaccc atccgagaac aagtcaaccc agatcgtcaa 60
aatcgaatct tgactcgagg gagaagcgga gaatgacgaa gcgcagcgca gccaaggccg 120

cggcggtgca cgagggcgag ggagcgagga gcgagctgaa gttcagaggg gtgcggaaga 180
ggaagtgggg caggtgggtc tncgagatcc gcctgcccaa cagccgggag aggatctggc 240
tcggctccta cgacaccccc gagaaggcgg cccgcgcctt cgacgccgcc gccttctgcc 300
tcggccgccc gccgcgaagc tcaacttcc 329

<210> 1391
<211> 156
<212> DNA
<213> Eucalyptus grandis

<400> 1391
cggacccgat gggcgagatg gtcgcctccc tcaggaacct gcagctcgac aaagtgaagt 60
ccatgccttg cggcgggtcc acttccggct cgccgagggc ctccaggatc cgaccggggt 120
tctacagtat gcccacgacg ccgacacagt ccaccc 156

<210> 1392
<211> 555
<212> DNA
<213> Eucalyptus grandis

<400> 1392
gaagctcgac acgcgatttc cggctgcaag gatcaagaag ataatgcaag cagatgaaga 60
tgtagggaaa attgcattag cagttcctgt tctagtctct aaagcattag aattattttt 120
gcaagacctt tgtgaccgta catacgagat aacacttcaa aggggagcaa agactatgaa 180
ttcgctgcat ttaaagcatt gtgtgcnaag ctataatgtg tttgatttcc tgagggagat 240
tgtcagcagg gttcctgact atggtcatgg tcatggtcat tcagatgctg tctctgagga 300
tagaacagtg tccaggagaa ggaaggccac catcgatgat ggtaatgaca ctgatgagga 360
atccaagaag agcaggatgc ttgagatggc ccatactggc agcagtggca gaggaagagg 420
ccgtggccga ggaagaggcc gcgggcgtgg tggccgagcc actgagaggg agactgcgca 480
ccatgaaact gaatcatctg agccgaccac atctctgcaa cctgtcaaca agaacattgt 540
caatcaagga acagt 555

<210> 1393
<211> 525
<212> DNA
<213> Eucalyptus grandis

<400> 1393
cgcggatccc gcgagcgtct cccccaagtg ccccttcggc tacgacgcgc cgccggattc 60
cggggccatc tcccccaagt gccccctcgg ctacgactcg cagacgttca agctcggccc 120
tctcagctgc atgatctgtc aggcccttct gttcgattgc gccaaatgcg tgccctgttc 180
tcacgtcttc tgcaaggcat gtatattgcg atttaaggac tgcccactct gtggagctga 240
tattgagggc acagaagccg actcgaatct tcagagcaca gttgatcggt ttatcgaagg 300
ccatggtaga attaagaggt cccatgttga gaatgttgat aaagaggaag ttagcgcgaa 360
ggagacggtg atatatgagg acgtgtcttt ggaaagaggt gctttcttgg ttcaacaagc 420
catgcgggct tttcgtgctc aaaatgtgga aagtgccaaa tcaagactca gtgtctgtgc 480
tgaggatatc agagatcaga taacaagaac aggcagcacg tcaga 525

<210> 1394
<211> 443
<212> DNA
<213> Eucalyptus grandis

<400> 1394
caatgtgtgg gggcgccatc atctccgact tcatccccaa ccagagggcc cgccgattga 60
cctcggactt cctgtggccc gatctgaaga gatcggccgg caagcagtcg aggcggccgg 120
ccaggtcgga ggtcgtcgat gtcgtggacg atgacttcga ggccgacttc cagggcttca 180

aggacgagtc cgacgtcgag gacgacttcg acgacgaggt cgaggtcgac gtcaagccct 240
tcgctttctc cgccgccgag cctcggtact ccaaaggctc ttcaaccacc aaatctgtgg 300
agtataatgg gcaagctgag aaatctgcca agagaaagag gaagaaccaa tataggggaa 360
tcaggcagcg tccatgggga aaatgggctg ctgagatccg tgacccaagg aaaggggtcc 420
gagtttggct tgggacgttt aac 443

<210> 1395
<211> 409
<212> DNA
<213> Eucalyptus grandis

<400> 1395
ccgaaatggc ccagttggta tgcggaggct gccacacctt actcatgtac atccgaggag 60
cgacaagcgt tcagtgctcc tgttgtcaca cagtcaacct agccttggaa gcaaatcagg 120
tggcacacgt caactgcggg aattgcagga tgctcctgat gtaccaatat ggcgcacggt 180
cggtcaaatg cgctgtttgc aattttgtta catcagttgg tgcttcgtca agcacactgg 240
aacagaagtt caccagctag aattagcaat aaacctaccg gtcacaggcc tcacaactca 300
tggttataag acttctattc tactgccgct gccgccgcca ctgcacatca gcgtcatgaa 360
cgcaagctga gaaaatccct actagtttaa cttgtataga gttaaaatc 409

<210> 1396
<211> 462
<212> DNA
<213> Eucalyptus grandis

<400> 1396
accatttctt ccgaacacaa gaggaggcgg gtggtggtgg tggtgttgct gcttctggtg 60
ccgtccactt ccttcttccc acctccatct tcatctctcc ctccctctct ctctctgaat 120
ctaccgaacc cttctcgccg aaggnnnatn agagagagag agagagagag agacgggaag 180
accatcgctt tcggccatcg cgtgcacgag cagtcatgag gagaggcaga tgcgccgccg 240
cggccgcgaa gagggaggcg gccgagatag cgccgccgcc ggtgccccat gcggctgcgg 300
cggcggcggc ggaacccaga tacaggggcg tccggcggaa gtcgctgggc cgatacacgg 360
ccgagatcag agaccccggg acgaagaagc tcgtgcggct cggcactttc ggctcgccgg 420
aggaaagcgg cgcgtgcttt cgacgccaag gcccgtggcg tt 462

<210> 1397
<211> 407
<212> DNA
<213> Eucalyptus grandis

<400> 1397
ctctcgctct gcaatttcac aacgagtccg tcagtagtag gacctcattc acagctccag 60
aaacccgaaa agatgagcca atccaccatg ttggtagcgg aagagaccat attttctccg 120
cccccttttgt ataaccagcg aaaccatccc cacgacggcg cctctgggct caacccgttc 180
ctcacccagg agcactgggg cgacctccct ctccagctca acgactccga tgacatgctc 240
atctacaact ccctccacga cgccctccac tccggctggt ccccttttcga ctccgtcatc 300
accgccgtcc accccgagcc ccagccccac cccctcctcc ccgccgcttc cgtccccacc 360
tccttcgcct ccgacgagcc ctgtcgctcc acaacgcttt cgcctct 407

<210> 1398
<211> 456
<212> DNA
<213> Eucalyptus grandis

<400> 1398
ccgacctcct ctctccacgc ggccactgtc ccgtcgcgcg aattcgcccc gccgtcgtag 60
gagaccgcat cctccgccgc cgcggcgatg gccccagctt cattccctgc gctagcaacg 120

catttcaatg gaagtatgct caatgatact aactcatctg gtgaaagtca cacacgtaat 180
ggaaggccac gaggagatgc caggggaagg aatcaattac ttcctcgtta ctggcccagg 240
ataacagatc aagagctaca acaaatctca ggagactcga actctgtaat cactcctctg 300
tttgagaaaa tgttgagtgc tagtgatgca ggtaaaattg gacgtttagt gctgccaaga 360
aaatgtgccg aggcctattt tccgtctatt tctcagcttg aaggattgcc actcaaagtt 420
caggatgcca aaggctcgga gtggatattt caatta 456

<210> 1399
<211> 474
<212> DNA
<213> Eucalyptus grandis

<400> 1399
aagttgagga agtcgagttg gagttctcgg agggtgaaat ggcggcttga ttgagggcct 60
tgttggggct tgattggaag gatttgatgg agctgttcat tccaaaggca ttgtcttctt 120
gagatgcgga cttcaaacca gcagcgtcct tgttggattt ggtggcggcc ctgcgagtcg 180
tgccgttctc agacccagct tgctctcggc tcttggtctc ttccaagtac atttcttcga 240
ccatgggctt ccagaggcga acccgagcgt tgatgaacca gttagacacc tggctcctgg 300
ttagtcccgc ttgttttgcg agcatgtgtt tgtccgaatc tttgggatag ctgcaattgc 360
aacacgccag aatgttgaat gtacaattgc aactcaaaca taaagcgtgg tcgtcaacca 420
tgaacatggt ttaaattact cctatgatct acagttgatc gaacttacct ttgg 474

<210> 1400
<211> 443
<212> DNA
<213> Eucalyptus grandis

<400> 1400
gccccgtctt ccncaaggcc atcggcgagc tccacggcca ctccggcatc gcgcggctca 60
tgctcttcta cgcccgcagc ctcttcggcc tcgtcgacca ccggaatggc atgggcgtcg 120
cgaacgccgg cctcgtgtac ttcgacggcc acctcctcgc gatgtccgag gacgacctcc 180
cctaccacgt gcgcgtcacg cgctccggcg acctcgagac cgtcggccgc tacgacttcg 240
ccggccagct cgactctccg atgatcgccc acccgaagat cgacccggct tccggcgaga 300
tgttcgccct cagctacgac gtcgtccgga agccgtacct caagtacttc cgattctcca 360
aggacggcga gaagtccccc gacgtcgaga tccccctggc tgagccgacc atgatgcacg 420
atttcgccat caccgagcgc ttt 443

<210> 1401
<211> 481
<212> DNA
<213> Eucalyptus grandis

<400> 1401
atgagctgag aatagccgaa gcatggatgt ggagatagcg gcgacagcgg cgggacgctg 60
aatatactct ccttgttccc ttccccaacg tcccagaacc ccctccagct cgacggcgtc 120
agcggacatg tatccctgcc gctcgccacg tccgcatgct gctccttctt caccacttta 180
taactgccgc cggcactcat ctcggactcg gcgctctccg cggcggcttc ctctcttgct 240
ctcttgcgag aagcatccgc cggggccagc gacggttccg tcgacgtcgg ctcgtcgcgg 300
cccgcctcga gcgggaagtt caggatggcc ttgctcccgc ggagcctgaa cgcggcgcgg 360
tcgtaggcct tcgctgcctc caccgccgtg tcgaacgtcc ccagccacac gcgcgtcccc 420
ttgcgcgtcg ggtcgcgtat ctccgccgcg aacttccccc acggccgccg gcgcacgccc 480
c 481

<210> 1402
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 1402
catgacccga cgccgccggc gaacgactgg gtcatggaga ccaggaagaa ccactcggtg 60
tcggcggcgt cgggttgccc ggtcgggcct acttcagctc gaatcccgcg tgggtcacgg 120
gggccgagag gttggggaat tgcgggtgcc gatagggccc ggcaggcgca gatcttcggg 180
ttgcagacca tcgcgtgcgt ccctgttttg aacggtgtgg tcgaactggg ttccaccgag 240
ccgatctacc agagctccga tctgattagc ggaattaggg ggctgttcaa tttccatgaa 300
tcggagatgg gatgcggtgg tagggttttg aatagcgagc atgacccggc gtcgctttgg 360
atctgcgatc cgccagtcac gatg 384

<210> 1403
<211> 380
<212> DNA
<213> Eucalyptus grandis

<400> 1403
ctctctctct ctctctctct ctctctctat ctttgatacc caaacaaaac acacggaaaa 60
gaaaaaccca caagcacgcc atggacaaca atgttgagga ataccagaac tattgggaga 120
cgaccatgtt ctaccaaaat gaagagctcg acagttgggt ggacgaggcg atatccgggt 180
actacgactc gagctcccct gacggggcgg cgtcgaccgc tgcttccaag aacatcgtgt 240
cggagaggaa ccgaaggaag aagctcaacg agaggctatt cgcattgagg gcggtggtgc 300
ccaacattag caagatggat aaggcatcca tcatcaagga tgcgattgac tacatccaag 360
agttgcacga tcaagagaga 380

<210> 1404
<211> 432
<212> DNA
<213> Eucalyptus grandis

<400> 1404
ccaacatcgt tctcgagaac ccactccat cccagttcga cccatctgag aacaagtcaa 60
cccagatcgt caaaatcgaa tcttgactcg agggagaagc ggagaatgac gaagcgcagc 120
gcagccaagg ccgcggcggt gcacgagggc gagggagcga ggagcgagct gaagttcaga 180
ggggtgcgga agaggaagtg ggcaggtgg gtctccgaga tccgcctgcc caacagccgg 240
gagaggatct ggctcggctc ctacgacacc cccgagaagg cggcccgcgc cttcgacgcc 300
gccgccttct gcctcggccg ccccgccgcg aagctcaact tccccggcag ccccccggag 360
atctccggct cggcgtccct ctcccccgat gagatccagt cggccgcggc gagctacgcc 420
aacttcgggg cc 432

<210> 1405
<211> 345
<212> DNA
<213> Eucalyptus grandis

<400> 1405
ccgacctcct ctctccacgc ggccactgtc ccgtcgcgcg aattcgcccc gccgtcgtag 60
gagaccgcat cctccgccgc cgcggcgatg gccccagctt cattccctgc gctagcaacg 120
catttcaatg gaagtatgct caatgatact aactcatctg gtgaaagtca cacacgtaat 180
ggaaggccac gaggagatgc caggggaagg aatcaattac ttcctcgtta ctggcccagg 240
ataacagatc aagagctaca acaaatctca ggagactcga actctgtaat cactcctctg 300
tttgagaaaa tgttgagtgc tagtgatgca ggtaaaattg gacgt 345

<210> 1406
<211> 471
<212> DNA
<213> Eucalyptus grandis

<400> 1406
actgggcaaa atattcctat ctctactgca tatatagggc tcgggagaga gagagagaga 60
gagagactgc acagtatagt aatactaaat aatacacctc ctttagactt gactgaagat 120
acaggcacaa ccctagtaag agaagaagga gaaggggaag atgaaggtga gaaggaagct 180
gagggagccc aggttctgct tccagacgag gagcgaggtg gatgtgttgg acgatggcta 240
caaatggagg aagtacggcc agaaagtggt caagaacagc ctccacccca gaagttatta 300
ccgttgcact cacagtaatt gccgagtgaa gaagagggtc gagcggttgt cggaagattg 360
tcggatggtg ataacgacct acgagggcag acataaccat tccccgtgcg atgactcgaa 420
ttcatccgaa catgaagggt tcaactcgtt ctagtattgc cccaagacag a 471

<210> 1407
<211> 471
<212> DNA
<213> Eucalyptus grandis

<400> 1407
agcaagcaaa agaggaaacc agataaaagc agacacctcg gtttcacgtt ctctactaca 60
gaattccgga gatggtgaag agagacagag aggacacgga ggtcgaagcc ctggccctgg 120
ccaactgctt gatgctcctc tcccgagtcg gcgagagcac cgactcgcca tggctgaacc 180
acaaatcccg gcctacggag cggatgttcg cgtgcaagac gtgcaaccgc gagttttcat 240
ccttccaggc actcggaggg cacagagcca gccacaagaa gccgaagctg tccggcgatc 300
tctttcacct agggcgctcc gcggattcct caccggccaa gccgaagacg cacgagtgcg 360
ctatatgcgg cctcgagttc ccgcttggca agcccttggc ggtcacatga ggaggcacag 420
ggccgccatg gcggagagct tggcgacggc cgaaaagcct gtgccggtgt t 471

<210> 1408
<211> 303
<212> DNA
<213> Eucalyptus grandis

<400> 1408
gcgcccttct cgaatccata cgaggagctg gcgaaccact tgctgctgga cgatcccgaa 60
tcggaccttt cggttcactt cccttccttc gcttccgatc ccgaaccctg caactccgct 120
gtatctccta gttttagcgt ggatggggat ttcctttccg actatggcga cacctcggat 180
cccacgttga aatacataaa tcagatgctc atggaggagg acatagatga caaaccctgt 240
atgtttcatg atcctttagc tctcaagctg cagagaaatc cttatacgat gctctctgtc 300
cga 303

<210> 1409
<211> 367
<212> DNA
<213> Eucalyptus grandis

<400> 1409
aatctcagga gactcaaact ctgtaatcac tcctctgttt gagaaaatgt tgagtgctag 60
tgatgcaggt aaaattggac gtttagtgct gccaagaaaa tgtgccgagg cctattttcc 120
gcctatttcc cagcctgaag gattgccgct caaagttcag gatgccaaag gctcggagtg 180
gatatttcaa tttcgattct ggcccaataa taacagtaga atgtatgttc tggaaggagt 240
cacgccgtgc atacagtcca tgcagttgca agcaggagac atagtgacat ttagtcggtt 300
agaacccgag ggaaaattgg tcatgggatt cagaaaggct tcaactgctc cctcatctga 360
tcaggaa 367

<210> 1410
<211> 353
<212> DNA
<213> Eucalyptus grandis

<400> 1410
cattaccacc accaccacca aaactctctc tctacccttc tctctctgcc cttctctctc 60
tagaatttat ggcgatgaag gagaaggcgg gttcgggcgg cggcgccagg ctggcggtga 120
gggaggcgca ctaccggggg gtgaggaaga ggccgtgggg gcggtacgcg gcggagatca 180
gggacccgaa gaagaagagc cgggtgtggc tcggcacctt cgacaccgcc gaggaggccg 240
cccgcgccta cgactccgcc gcccgcgact gccgcggctc caaggccaag accaacttcc 300
ccctcccctc ggagcgcccc gtcctcctcc tcgccggagc cgacggagga gca 353

<210> 1411
<211> 586
<212> DNA
<213> Eucalyptus grandis

<400> 1411
atcaggtccc gcgccactcc attcgcgnat ctccgacctc ctctctccac gcggccactg 60
tcccgtcgcg cgaattcgcc ccgccgtcgt aggagaccgc atcctccgcc gccgcggcga 120
tggccccagc ttcattccct gcgctagcaa cgcatttcaa tggaagtatg ctcaatgata 180
ctaactcatc tggtgaaagt cacacacgta atggaaggcc acgaggagat gccaggggaa 240
ggaatcaatt acttcctcgt tactggccca ggataacaga tcaagagcta caacaaatct 300
caggagactc gaactctgta atcactcctc tgtttgagaa aatgttgagt gctagtgatg 360
caggtaaaat tggacgttta gtgctgccaa gaaaatgtgc cgaggcctat tttccgtcta 420
tttctcagct tgaaggattg ccactcanag ttcaggatgc caaaggctcg gagtggatat 480
ttcaatttcg attctggccc aataataata gtagaatgta tgttctggaa ggagtcacgc 540
cttgcataca gtccatgcag ttgcaagcag gagacatagt gacatt 586

<210> 1412
<211> 427
<212> DNA
<213> Eucalyptus grandis

<400> 1412
gcttttcctt acctaagatc gccagtagat catcgctcca tttcgctcct tctcctccat 60
cgtcttccgg ttggtgtttc gggaagccat ggatcttgag tacccagaag agttcttggg 120
cggtgcccac gaccaccatt cgcagatctc caagggcaag cgcacgaagc gccagcggcc 180
ggcctccccg agcggcggcg gctgcgtcgg cgccgacgcc ggcgtggcca ccgggagggc 240
cggcttctac gtctacgagt gcaagacttg cagccgcgtg ttcccgtcgt ttcaagcgct 300
aggagggcac cgtgccagcc acaagaagcc caagtccacg gccgatcctg accagaaaat 360
caagccgtcg acggtggtcc tgggcttgga cgcaattgac gacgaagacg aggggcactc 420
cggtaaa 427

<210> 1413
<211> 375
<212> DNA
<213> Eucalyptus grandis

<400> 1413
gaaagtgacc cactggctgc cctgtgtaat ctggaaatcg acaatgtgaa ttctctgttc 60
gttttccatg gctttggtga tgatgacatt tgtggacaca tatgcaaact tccagtaggg 120
gcagatctga tagagaacct gcatgttagt cagcaattct gagctcgtag gttcttcgca 180
cttgagcttt cggtaaatta tgctcccgga aaatttcaat ttcgccctaa gcccttccaa 240
gaggtaagca ccaagacgct gaatcgggtc gcccataacc gacaccattt gctccagcat 300
atccattaga gctgctgcac tagaagtatc ggcatcagag attgcccttg ccaggcgatt 360
accacttgtt tcaag 375

<210> 1414
<211> 369
<212> DNA

<213> Eucalyptus grandis

<400> 1414
ctcaaaatgg acttgtgctg ataacagttg ggatccagaa agatcatctt gctcggcgga 60
tcaagacttg acggcagaag agcttgaaga tatgctatct aataataatc cagcaccttc 120
taagaaagct aaggctccta aacaagagaa tatggaagca ctggaggggc tggatactct 180
tgccaaccta gcaatcttag gagaaggcga ggtgctccca tcatcttctt catcatctca 240
agccacaaca aagcaccctc gacaccgacc agggtgttca tgtattgttt gtatacaacc 300
ccccagtgga aagggcccaa aacacaagcc aacatgcaca tgtaatgtct gtctgaccgt 360
aaagcgcgt 369

<210> 1415
<211> 313
<212> DNA
<213> Eucalyptus grandis

<400> 1415
gccgattacg acgagggcgg cgacgacaat ccggggagcc gccacccggt gacccggcag 60
ttcttcccgg tggaggagga ggaggagctg gaagaggatg gcgagcgggc aggaatgggg 120
ggagccgcag tgccgccggg gttcccgagg gcgcactggg tcggagtcag gttccgccag 180
tcggatcacc atccaatcgg atcgggcaag ggctcaccga tattggaggg ttcacagccc 240
atgaagaaga tcaggaaagg gccgaggtcg cggagctccc agtatagagg ggtcactttt 300
tacaggcgaa ctg 313

<210> 1416
<211> 489
<212> DNA
<213> Eucalyptus grandis

<400> 1416
ctcttcgaaa accctttctc tctcttcgat ctctctctct ttctctctcc tctgtgattg 60
cagatcaggc tcccacgccg ttccattcgc gcatctccga cctcctctct ccacgcggcc 120
actgtcccgt cgcgcgaatt caccccgccg tcgtaggaga ccgcatccta cgccgccgcg 180
gcgatggcgg cgccacgagg agatgccagg ggaaggaatc aattacttcc tcgttactgg 240
cccaggataa cagatcaaga gctacaacaa atctctggag actcaaactc tgtaatcact 300
cctctgtttg agaaaatgtt gagtgctagt gatgcaggta aaattggacg tttagtgctg 360
ccaagaaaat gtgccgaggc ctattttccg cctatttccc agcctgaagg attgccgctc 420
aaagttcagg atgccaaagg ctcggagtgg atatttcaat ttcgattctg gcccaataat 480
aacagtaga 489

<210> 1417
<211> 372
<212> DNA
<213> Eucalyptus grandis

<400> 1417
catcggcgag ctccacggcc actccggcat cgcgcggctc atgctcttct acgcccgcag 60
cctcttcggc ctcgtcgacc accggaatgg catgggcgtc gcgaacgccg gcctcgtgta 120
cttcgacggc cacctcctcg cgatgtccga ggacgacctc ccctaccacg tgcgcgtcac 180
gcgctccggc gacctcgaga ccgtcggccg ctacgacttc gccggccagc tcgactctcc 240
gatgatcgcc cacccgaaga tcgacccggc ttccggcgag atgttcgccc tcagctacga 300
cgtcgtccgg aagccgtacc tcaagtactt ccgattctcc aaggacggcg agaagtcccc 360
cgacgtcgag at 372

<210> 1418
<211> 354
<212> DNA

<213> Eucalyptus grandis

<400> 1418
gcggaatttg aatatcagag gagcacaaag cagccagcag tttgcgtgga ggagaatgag 60
ttagctgaca ttttcgatag ggttctactt tgtgctccga cgggaaataa gcctgattct 120
aaatctcctg gttctagatt tgaggatgcc tcaaataatg gggcaagcca gaatgtacag 180
aaaaatcgca atcacctgca ctttcagccg aacagctctg tgtcaaaaaa ccaatgagtg 240
ataagaagga agtcgtggat ctgaggaacc ttctgtgttc ttgtgcacaa gcagttgccg 300
tggaggatcg taaaaatgct aatcaatatc tgaagcagat taggcagcac tcct 354

<210> 1419
<211> 540
<212> DNA
<213> Eucalyptus grandis

<400> 1419
ctcaatcgga gttgggctgg ctgtgatatc tgtgtccgcg gccagggccg ccatgctttt 60
tgccagcccg atggcgttgt aaatcgctga accgtaagaa cggcagtaaa caagtgtcgc 120
atgagtacgg ctttttgccg ctgtgtgtcg ccatgtgttt cttcaaattg cccttcaatg 180
caaatcgttt cccgcattga tcacattcga acgggcgcac cttcgaactc gaatgagatg 240
cgacatgacg cgttagtgct tcctcgaaat gaaaagactt tccgcaaagt ttacacggga 300
actcgcgcag cacatcgtac tgtgtaggaa catattcgtc tcctgaatca ttgtccatcg 360
ctgtagaatc attttcttct tcttccgtag actcgttcga attgttgttt tccgttgagg 420
tcgtcgcaga ttcaggagat ccagcaggat tggagataac tggctcatcc acaggcaaca 480
acgcgatttc ggcgagattt tccatcagga tgggctccac agtgaccgga gggcccctg 540

<210> 1420
<211> 349
<212> DNA
<213> Eucalyptus grandis

<400> 1420
gatgggttca aacagtctta tgggcttggt gggaagagat catcatcgat tcggcctccc 60
gaacaagaga gaaagaaagg ggttccttgg accgaggaag agcacaagct ctttttgatg 120
ggtctaaaaa aatatgggaa aggtgattgg agaaacatct ccaggaactt cgtgatcacg 180
agaacaccga cgcaagtagc tagccacgca cagaaatact tcatcagaca actttcaggt 240
ggaaaagata agagaagggc cagcatccac gatatcacaa ctgtgaatct cacagagact 300
agaactcctt caccagatga taaaaggccg ccttcgccag atccttcat 349

<210> 1421
<211> 378
<212> DNA
<213> Eucalyptus grandis

<400> 1421
ccgaggccga cttcctggcc aaacactcca agcccgagat cgtcgacatg ctgcgcaagc 60
acacgtaccg cgacgagcta gagcagagca agcggagcta caggggctcc gccgcggaac 120
gggccgggag gggcgggttc gggccggggc ggacagagtg gtcggccgcc gcccgggagc 180
agctgttcga gaaggccgtg acgccgagcg acgtggggaa gctgaaccgg ctggtgatcc 240
cgaagcanca cgcggagaag cacttcccgc tgccgggcgg gccggcggcg acgatgaagg 300
gcgtactgct caacttcgag gacgtcggcg ggaaggtgtg gcggttccgg tattcgtact 360
ggaacagcag ccagagct 378

<210> 1422
<211> 358
<212> DNA
<213> Eucalyptus grandis

<400> 1422
ctcctctcct ccctcactct ccctcttatc tcctccctcc tctcctccgg gtacatgcaa 60
gaattcgagg gggagagagg gagagagcgt gctttgaaca tggggaggag cccgaggtgc 120
gacaaggacg ggctcaacaa aggagcgtgg acggccgcgg aggaccagat cctgatggac 180
tacgtcaagc tccacggcga gggcaaatgg agccggctct ccagggaaac cggtctaaga 240
agatgcggca agagctgcag gctgcgttgg atgaattacc tgaggcccga catcaagaga 300
gggaacatct cgcccgacga agaagaacta atcatccggc ttcacaagct attgggca 358

<210> 1423
<211> 373
<212> DNA
<213> Eucalyptus grandis

<400> 1423
catcctatga agccggaatc tgttgaagta ctgaatttcg gagatagtgg gagcggaagg 60
ttgctttcga gtcattcaca ggtcgcagtt gcagaggagc ctctgaacca cgtcgaggcg 120
gagaggcaga ggagggagaa gcttaatcag aggttttacg ccctcagggc cgtggttcca 180
aatgtatcaa agatggataa ggcttcactg ctccaagatg cggagtctta tatcagggag 240
cttaacatga acctacaagc tgcagagtct gataaggagg atttgaagaa gcagttggat 300
gaactaaaga agcgatcatc ggataaagaa tgtatcccgg tggatcaaga tcgcaagatg 360
gcaaaaccta cgg 373

<210> 1424
<211> 425
<212> DNA
<213> Eucalyptus grandis

<400> 1424
gcgaaccgag cgcgaatcgg ctaatgttca tcggaagctt ctcataagag gaggggtccg 60
aggcttcaat tttcgagcag ggctcatgga tcgtcggttc tacaccaacc ccttcgtgca 120
tgatcaagaa gaagaccccg agcccgagca aggccctgat tcgccctcct cgggggaaga 180
ctccaangtg aatgctatcg agccgtcnca aaagagaagg aagagcgtga agaancgagt 240
ggtgtcggtt ccgatcgcgg gcgaccccga gggatccaag agcaaagggg aggcctaccc 300
gccgtccgat tcgtgggcgt ggaggaagta cggccaaaag cccatcaagg gctcgcctta 360
cccgagggga tactaccgat gcagtagctc caagggctgc cccgccagaa agcaagtgga 420
gcgca 425

<210> 1425
<211> 434
<212> DNA
<213> Eucalyptus grandis

<400> 1425
gcactttcag cttcggcatc ctgaaggccg gcgagggagg tgatggtgtc gcggacgacg 60
aactcggggt gacgaggcag ctgttcccgg tgagggaggt ggatgcggat atggagtggt 120
gcggcgagtc gtcctcgctt gataagagga gcgatgtctt cttggttggt gcttgtaagg 180
aaaaggaagg tccgaggctg gcgatgccgc agcagcggag gaagagcagg aggggaccga 240
ggtcaaggag ctcgcagtat agaggggtta ctttttatag gaggactgga agatgggagt 300
cgcacatatg ggactgtgga aacaagtgt atttgggtgg attcgacact gcacatgctg 360
cagctagacc tatgatcgag ctcaataaaa ttcaggggct tgatgcaaca taaatttcaa 420
tttgagtgat tatg 434

<210> 1426
<211> 414
<212> DNA
<213> Eucalyptus grandis

<400> 1426
gccagtatga actctccttt agcccagctt gttaacccaa gaaggatgca cacctacgag 60
ccatttgacc agttccccat gtggggagac accttcaaag ctgacaaggt taaaaatctt 120
gaggcatcgt catctgtgat tgtgcatgca gtagatgatg gattggacaa gaagtttgaa 180
tatgtttctc atgaatcggc agaaaattcc agctccagga gcgatcaaga agcaaataga 240
cctgacaagg tacagagacg tctagcacag aaccgtgaag ctgctcgaaa aagccgtctg 300
cggaagaaga aatatgtaca acaactagaa tcaagccgct tgaagctagc acagttggag 360
ctggaactcg ggagagctag gcagcaaggg ttgctcttgg gaaatggatt cgac 414

<210> 1427
<211> 332
<212> DNA
<213> Eucalyptus grandis

<400> 1427
aaaagcccta gctaaatcaa ttaacaagcg ctaatcctaa aagcacaggc gaagatttca 60
ctgttctgga gagagcttga tcttcagggg cgtcgagaag cgcggcttct tcgaggggtg 120
ggggctctcc acctcgtcgt cgcccgacac gatgaacccg gtcgggaact ccggcagcgc 180
gggcacgttc aggtcgaagt tgcggcggcc gctgtcgtat ccgagcgcgg gcggggccgc 240
ggaccccacg ccctcggacg tggtgacccc gctgttggcg gagccgctgg cgccgccatc 300
gtagtggcaa cgcttgtgcc cgcccagggc ct 332

<210> 1428
<211> 318
<212> DNA
<213> Eucalyptus grandis

<400> 1428
gatccaccca actggccaca gcagcaagca aatcaacaat caggagcaag cagtgagatt 60
cctcagcttc cgctgccgcc gccccctctg ccagccggag ggggcggtac aggctccatc 120
cggccaggtt ccatggccga tcgggctcgg ctggccaagg ttccgcagcc cgagcctgga 180
cttaagtgcc cccgatgcga ctcgacaaac accaagttct gctacttcaa caactacagc 240
ctcacgcaac cgcgccactt ctgcaagagt tgccgccggt actggacccg aggaggtgcg 300
tgaggaacgt gccagtcg 318

<210> 1429
<211> 349
<212> DNA
<213> Eucalyptus grandis

<400> 1429
gaaagcctaa agaaagcaga tacaacagga aaaggaggac accaatacag atggttttac 60
agaaagattc acaagaacta aaccgtcgct gatcttaggc acgagtcaag ctgcttgagt 120
ggcgccatcc ttgcagttgt cgagatccga ttcattgact gaagaaggcg ccttgataaa 180
tgctgactgt cgagatgttt ccccgagaaa cttcaaagag agtggtgcag gttcattctc 240
agcaagactt agctgagaca ttccaactat ttggtcgata tttaggggtt cttttggaat 300
tactgggatt ggctttagca cacggtgatg agatgtctcc accacccctt 349

<210> 1430
<211> 350
<212> DNA
<213> Eucalyptus grandis

<400> 1430
aacgcccgtt ctccacaaca agcgactctc tctctttctc tctctcctcc aactaaaatc 60
ccaagcctcc caagtctctc cgaccatggc tccccgggag aggcccaacg ccgtcaccgt 120

cgccgtcagc cccaggcccc agggcggcgc caaggagatc cgcttccgcg gcgtcaggaa 180
gcggccgtgg ggccgctacg ccgccgagat ccgcgaccca ggcaagaaga cccgcgtctg 240
gctcggcacc ttcgacaccg ccgaggaggc cgcccgcgcc tacgacacgg cggcgcgtga 300
gttccgcggc gccaaggcca agaccaactt ccccaccgcc gacgagctcg 350

<210> 1431
<211> 350
<212> DNA
<213> Eucalyptus grandis

<400> 1431
aaccgacgac acaggtgaca agaatcacag gttcgaaggg ggtcaattgg gtgttgcagc 60
agcttctgat tccagtgaca gatcaaaaga aaaagccaca gatcagaaga ctttacgcag 120
gcttgctcaa aaccgtgaag ctgccagaaa gagtagatta aggaaaaagg catatgtcca 180
acaactggag agtagcaggc tgaaactcac ccaactagag caagaactgc agcgagcccg 240
tcagcagggc attttcattt caggtagtgg agaacaatcc cactcaatga gcggaaatgg 300
tgccctggcc tttgatgttg aatatgcacg ttggcttgaa gagcacaaca 350

<210> 1432
<211> 317
<212> DNA
<213> Eucalyptus grandis

<400> 1432
cggggataca ggtgctggca ggtttaacta cttaaatgat aggtattatt atcatcacaa 60
aggtcgggtt ctggctgtta atggacatat gaatggtact tattatggca ctggaagagg 120
gtcttccggt ggaacataca gtactggttg tagtanaggc tgtggtggca ggtcagacta 180
taagatcacg agaaaagata gggaatctat gcccaacatg agcgagcctc ttgttgcctc 240
tttgtatgtt cctaggaatg ataagcttgt gaaaattgat ggcaacttga taattcattc 300
tattatggcg agtgaga 317

<210> 1433
<211> 370
<212> DNA
<213> Eucalyptus grandis

<400> 1433
gctcaatgta gtcatcaaga aataaacatc ctttagcaac gaaagccaga aagcctgaat 60
ctctaacgga aacttacatg cacgtgcata ttaggccata aaaacatgac agataaaata 120
caaaatccct ttttctaatg tgtaacattt ttcggcagat ttctaatgac attactcttc 180
atcccaattt tggtgcgcat cgcctccact cctgatcgat tcatctctct tatcaccttc 240
agcctgacca tttgttctct tgaccgtaca gtggtagtta atcccatact cctgtacctt 300
gaggccagtg cagcagtaat tgccgcatta tttccagttg atggacgagg tttctggcgg 360
tagtatctca 370

<210> 1434
<211> 210
<212> DNA
<213> Eucalyptus grandis

<400> 1434
gaaaagcgta cgcgaggagg cagcatgcgt ggctcaccgg agctaatgag gttgatagca 60
agactttttc gagagctatt cttgcaaaga gtgctcgtat tcagaccgtg gtttgcatcc 120
ctcttctaga cggcgtagtg cgatttggca ccacggaaag ggttcaagag gacatttcac 180
tcgtcaatca tgtcaaaacc ttcttcgttg 210

<210> 1435

<211> 557
<212> DNA
<213> Eucalyptus grandis

<400> 1435
ggtcgttcga caacaccctg tcgctgctga gccgcgccga gcccgacgag gtgtcgcagg 60
tgccggtcag gccctgcgcc gtcaagtccg aggactccga ggagagcagc aagacctcgg 120
tccccagaga ccgccgtgga tgctacaaga gaagaaagac ttcggataca cagataagga 180
tggatcataa tttgattgac gacgggcacc agtggaggaa atatggccag aaagcgattc 240
ttaactcgga gttcccaagg aactacttca ggtgtactca caagatcgac caaggttgtc 300
tagcgaccaa acaggtccaa aaggtacagg acgctccgcc cctctatagg accatatacc 360
agggccaaca cacctgcaag aacctcatcc tgaaatcccc ctccctcatc ctggactcgc 420
ccgagccctg ggactcctc catcctcgtc agcttcaaca ccagcctccc tcccaagcaa 480
gacgacaaca acaacagcag cagcaacccc ttctcctctt cgactttccc gtcggtgaag 540
cacgagcccg aagctgc 557

<210> 1436
<211> 438
<212> DNA
<213> Eucalyptus grandis

<400> 1436
aatcaacacc nctccccaat ttctctctnt aagatcccac cccaaccgcc accctcaatc 60
tctctctttc tctctcttct tcagtgtctg ccccgtctgc gacaagggct tcccctccta 120
ccaggccctg ggcggccaca aggccagcca ccgcaagcac gcctcctccg ccgcggccgc 180
cgccgggggt gacgaccagc cgaccacctc gagcacctcc gcggcgacga cctcctccgg 240
cgtctccggg aaggtccacg agtgctcgat ctgccacaag agcttcccca ccggccaggc 300
gctcggcggg cacaagcggt gccactacga ggcccccgcc cccatccccg cctccttctc 360
cgccccctcc gccgccgccg ccccggccgc cagcggggtg agcgtgtcgg agggcgtggg 420
gtccacgcac acgcagag 438

<210> 1437
<211> 327
<212> DNA
<213> Eucalyptus grandis

<400> 1437
tctctctctc ttcgtttctc ccgtttctct ctctctacct ctcgccaaga aaccgccagg 60
aaaggaagga aggtaaaaag aaaagaaaag gaagccatgg ctccgagaga aaagcccagc 120
gtcgccgcca tcccaaaccc taacggcgct aaggaaatcc gtttccgggg cgtccggaag 180
aggccctggg gccgctacgc cgccgagatc cgggaccccg gcaagaagac ccgggtgtgg 240
ctcggcacct tcgacacagc cgaggaggcc gccgcgccta cgacaccgcc gcccgcgagt 300
tccgcggcgc caaggccaag accaact 327

<210> 1438
<211> 360
<212> DNA
<213> Eucalyptus grandis

<400> 1438
gcgagagcta accgccaaaa ttacccagct ctcatctttc ccacttcaac aaaaataccg 60
gaccgaaaga atgtgtatac atatgtctat ttgatagcat aagaacgggt acataccgtg 120
tcaaggacct ccatgaacaa ggatgaaaaa ctggctaatg cctggaaaac tcctggcaga 180
cccgtttgaa gattgttcaa ggtacttgtc ctcgtcactt ccactgcctt ggaatgtttc 240
agcatttctt cttctaccct cctttggcag gttgcaagtt caagtttctt ctcggccagt 300
gggtcccgag catccagcac ctggccattg tcgggcccag gatcagggaa ccctacacca 360

<210> 1439
<211> 269
<212> DNA
<213> Eucalyptus grandis

<400> 1439
ccgaaacgga atcgttcttg ggtttgaag cgaagccggt aattatcggt gaaacggcct 60
cgaaaacctc gcaatcaagc aagaagccat cgctgaagat cgcggtgccg agaaaagtcg 120
agctgctgca attctccaag gcgaatccga tggttcaagg aggttcgaat caagcacgcg 180
acgagcagag gcactataga ggagtccggc ggaggccttg ggggaagttc gcggcggaaa 240
tccgagaccc caaccggaag ggctcgcgc 269

<210> 1440
<211> 351
<212> DNA
<213> Eucalyptus grandis

<400> 1440
aagaagacga agcagctcat ccgaccatgg tgttggtatt gcgaacgaga atttgaagat 60
gaaaaagttc tcatgcaaca ccaaaaggca aaacatttca aatgtggaat gtgtcctcgt 120
cgtttgaata ctgctggtgg tttggctgtt catattcagc aagtgcacaa actcgaaccg 180
gaaaaccttc cacgtataga aaatgcacta ccaggaagag atggctacga agttgaaatc 240
tttggtatgg tgggaatccc agcacctgat gtcgccgact acaaacgacg caaggaaatc 300
gaactgggac tggcagcagg atccatttca cagcctcctg ccaagcgtca g 351

<210> 1441
<211> 476
<212> DNA
<213> Eucalyptus grandis

<400> 1441
gatagtccaa gctctctgcc tctctctctn tctgtattct ctatcttcat ctgcggcgtc 60
ttgatcgctc tcatctcgct ctcgcgaatg ttgtctctcg tcttctcctc tgtccgccat 120
tcaaagatca cctattcttt ccgtttggtt tgcggtgact aagaactctt tctctctctc 180
gctctgagtc actcttgctt tctcccgact tttctgggat tgatgaaaat ggcggaaaga 240
tcgaacttgt cggacccgga aacaagcccc ttgaactcac cctccacctc ctccgcttct 300
tcctcgtact cacccgaccc gcgccgccgg gccggctcgc ccgccgcggt ccgcgacccg 360
ttgagatcct ccaagcggag caagcacccg gtgtaccgcg gggtccggat gaggaactgg 420
ggcaagtggg tgtcggagat ccgggagccc cgcaagaagt cccgcatctg gctcgg 476

<210> 1442
<211> 315
<212> DNA
<213> Eucalyptus grandis

<400> 1442
gcaagnactt tgaacctggg aatcatgtna aggtcgtttc tggtncccaa gaaggtgcta 60
ctggtatggt tgtaaaggtg gagcaacatg cgctgatcat tttgtcagat acaacgaagg 120
aactattacc gtttttgcag atgatgttgt tgagagttca gaggtaacat ntggaataac 180
cagaattgga gactatgagc ttcacgacct tgtgctgctg gataatacca acttcggtgt 240
cataattcgt gttgaaagtg aagcttttca ggtaggtgac atgcactgag gcaagtctct 300
tggacatgcc cttca 315

<210> 1443
<211> 338
<212> DNA
<213> Eucalyptus grandis

<400> 1443
ctcagccgag cttcagaggg aaaccgccat gccctcgcga aagtcactct gccacactta 60
tcgggaacga taagatggtc atttttgggg gtagtggcca aggcgaagcg aactattgaa 120
cgacctgcat attctggacc tagagacgat gaggtggatg tctcctgagg taaaaggcga 180
gattcctgtc cctagggaca gtcacagcgc tgttgccatg gaaaacaaat tagtggtgta 240
tggtggagat tgtggcaatc ggtatcttgg cgatgttgat gtacttgata cggacacaat 300
gacctggtca aagttgactg ttcaaggatt ttcacccg 338

<210> 1444
<211> 409
<212> DNA
<213> Eucalyptus grandis

<400> 1444
gccaaggcca caaccatcaa caccaccacc agtttggccg tgatcattct tctccctctt 60
cggtcgccat ggctggtgcg gcaggggggtt tagagagnga gaacggcgga aatgggagat 120
ggcctatgca ggagactctc acgctcctcg agatcaggtc cgaggctcga ctctaggttt 180
aaggaggcca accaaaaggg tcctctttgg gacgaacttc cggattatgt cggaagaaca 240
tgggtatcaa cggagcggca agaaatgcag ggaaaaattc gagaacttgt acaagtatta 300
caagaagacg aatgaacgaa aagcgggtag gcaagacggt tagcactaca ggttctttcg 360
tcaagctcga agctctctac ggagagaacg ccaatttgaa ttccatcct 409

<210> 1445
<211> 304
<212> DNA
<213> Eucalyptus grandis

<400> 1445
gaactgttgt acatggatgg acaggctgac atcaagcagc gccaatcctc cattaatgcc 60
ttcaatgacc caacgagtga agtgagggtg ttgcttgcct ctaccaaagc atgttccgaa 120
gggattagtc tggtgggtgc ttcaagggtc gtgttactag atgttgtgtg gaatccgtca 180
gttgacaggt aggccataag ccgtgctaca gacttggaca gaagaatgcg gtctatattt 240
atcatctgat cacttctggg acaatggatg ctgagaaata ctgtcaacgg gtgtaaaagg 300
acac 304

<210> 1446
<211> 332
<212> DNA
<213> Eucalyptus grandis

<400> 1446
ggctccccgg gagaggccca acgccgtcac cgtcgccgtc agccccaggc cccagggcgg 60
cgccaaggag atccgcttcc gcggcgtcag gaagcggccg tggggccgct acgccgccga 120
gatccgcgac ccaggcaaga agacccgcgt ctggctcggc accttcgaca ccgccgagga 180
ggccgcccgc gcctacgaca cggcggcgcg tgagttccgc ggcgccaagg ccaagaccaa 240
cttccccacc gccgacgagc tcgtcgtcgc cgtcgccgcc gccgcccgca gccccagcca 300
gagcagcacc gtcgacaacg cctcccctcc gc 332

<210> 1447
<211> 349
<212> DNA
<213> Eucalyptus grandis

<400> 1447
gtaaaacaac ctccctcagc tcctcttcac cactggtttt tgagatgatc tgtgtgctcg 60
gcgccgttga ttattatgtc ttattctgac ttgctgaacc tgctgtttgc cgtgggcgtt 120

tggtgcaccg cgtatattgc ggctgccgtt ctcgagtcgc tccgggtctt ccatactctc 180
tgttcgtttt gatttcgata gctgttttcg aaggctaaga tgggctacgc acagctggtc 240
atcggccctg ccggcagtgg caagtcgact tattgctcga gtttgtatca acattgtgaa 300
gctattgggc ggacaataca cattgttaac ctagatcctg cagcagaga 349

<210> 1448
<211> 362
<212> DNA
<213> Eucalyptus grandis

<400> 1448
ccgcaacgag gcgataccat ctccggcccg cgtcttgctc ttccctctcc aatcccatcc 60
atccctccat ccatccatcc atccgcccga accctccctt tctctctcca tctctctcgc 120
gcagcatgat tccgagccga gccgccgcgg cgcccgacga cgtcccggaa gtcgccggat 180
cggcaccgaa ggggcacgta caacagcagc agcagccgca gcaacaggtc ggcgccggca 240
gcccaagtac aggggcgtgc ggaggcggcg gtggggcaag tacaccgccg agatcagcga 300
ccccgtcaag aaggcacgcg tctggctcgg caccttcgcc tccgccgagg agggcgccgc 360
gc 362

<210> 1449
<211> 281
<212> DNA
<213> Eucalyptus grandis

<400> 1449
cagcagacca gaccattcca ttccattcca tttcgcattc tctactacag actcgcagag 60
atggtgaaga gagacagaga ggcgcggagg tcgaagccct ggccgnggcc aactgcttga 120
tgctcctccc ccgagtcggc gagtgcgccg actcgaaccg cgaatcgcgg tctacagagc 180
ggatgttcgc gtgcaaagac gtgcaaccgc gagttcttct cattccaggc gctcggaggg 240
catagaacca gccacaagaa gcagaagctg atccccggcg g 281

<210> 1450
<211> 389
<212> DNA
<213> Eucalyptus grandis

<400> 1450
aagaagacga agcagctcat ccgaccatgg tgttggtatt gcgaacgaga atttgaagat 60
gaaaaagttc tcatgcaaca ccaaaggcaa aacatttcaa atgtggaatg tgtcctcgtc 120
gtttgaatac tgctggtggt ttggctgttc atattcagca agtgcacaaa ctcgaaccgg 180
aaaaccttcc acgtatagaa aatgcactac caggaagaga tggctacgaa gttgaaatct 240
ttggtatggt gggaatccca gcacctgatg tcgccgacta caaacgacgc aaggaaatcg 300
aactgggact ggcagcagga tccatttcac agcctcctgc caagcgtcag aaaatggatc 360
accggccgat atctcagagc gaattgaag 389

<210> 1451
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 1451
gctgcgctgc cccttccctt ttgaccgttg ctcctccccc ttctctctct accaacgtct 60
ctctctctct ctctctatct gcactgtgat tccctcacct tctcgcagcc tcgccatctt 120
ccctcctccc aactcctcgc tccttcgctc gctcgctaca gtccagatat ttcgcgatca 180
atctcgaaca gcttacggag atccttatgt atctggtgat aagcataaga gaacaccctt 240
gtgaattccg tttcgatttg cattttaaaa gttcatagtg tgaagagagt tggaaatctg 300
aggtgcaaga tggggtgttc ctcatcaaag cttgacgatg aagaggcggt caagctatgt 360

aaggatcgga agcgattcat t 381

<210> 1452
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 1452
ggcgagctct cttatcttct tcttcctcct gctccaccta aaccctcgc ccggcaaaac 60
cgattcgagg tcgagagtcg agtaaagatg aatgtggaga agcttatgaa gatggcgggt 120
tcagtccgca ctggtggaaa gggtaccatg agaagaaaga agaaggctgt gcacaagaca 180
actaccacgg atgacaaaag gctccaaagc actctcaaaa gaattggggt taatgctatt 240
cctgcaattg aggaagtcaa cattttcaag gatgatgttg tcatccaatt tgtaaatccc 300
aaagttcaag cctctattgc agccaataca tgggttgtca gtggtgctcc tcagaccaag 360
aaattgcaag atatcctccc a 381

<210> 1453
<211> 378
<212> DNA
<213> Eucalyptus grandis

<400> 1453
tttttttttt ttttttacgc aatggaagaa caaactgttt tccaactgaa agtacaaata 60
actcctaatc tagaattagg taaatgctta aatcctgcta cctacaaatg tgaaccacga 120
tgacaaggtt cccaacacca aatgtttggt acgatgtgaa aacttgacga cctgacagca 180
attagcatat accaacctaa cgaaactacg agggggagag agcttatggg cacggcacca 240
gctatatcaa gtacgcactc tcttattgct gcaggaggga cacttgtact gcttgatgtg 300
ctcagccctg gcgggagtaa ttttcacgca tttcccatgg aaccacttct cgcacatgtc 360
acaacagatc cagaactc 378

<210> 1454
<211> 339
<212> DNA
<213> Eucalyptus grandis

<400> 1454
atgctgctgc cacgaacagc cgctttacaa tcttttacaa tccaagggcc agtccatcgg 60
agtttgtcat acctctggca aaatatgtga aagcagtcta tcacacaagg gtatctgttg 120
gcatgcgatt cagaatgctt tttgagacag aagagtcaag cgttcgtaga tacatgggga 180
cgataacagg cattagtgat ctggatcctg ttcgctggca aaactcacat tggcgttcag 240
taaaggttgg atgggatgag tcaactgcag gtgagaggca gccaagagta tccttgtggg 300
aaattgagcc actaacaaca ttcccaatgt atccttctc 339

<210> 1455
<211> 372
<212> DNA
<213> Eucalyptus grandis

<400> 1455
gtcggtgtta ggagattaat gagacagcaa agtaacatgc catcctctgt tatatctagt 60
cacagcatgc atcttggggt tctggccact gcatctcatg ccattgcaac tggaactctc 120
ttttctgtat tctacaaacc aagaacaagt aggtcagagt tcattgtgag tctcaataaa 180
taccttgaag cacgggccca caagctatcc attggaatga ggtttaaaat gaaatttgag 240
ggtgaagaag tttcagaaag aaggttcagc ggcacaatca ttggtgtagg agacagcatg 300
tcatctggat ggactaattc tgaatggaga tccttaaagg tccaatggga cgaaccttca 360
tcaatcattt gg 372

<210> 1456
<211> 436
<212> DNA
<213> Eucalyptus grandis

<400> 1456
gcaacgtagt gtttccatag caactcaaac aacaaaggaa cttgttttaa aggattatgc 60
tctggagtca gatgagacaa gaatatacaa agcagcgcga aaaatggttg ccagccttgc 120
tggaagtcta gctcatgtga catgcaagga acctttgcgt gcttcaatat caaatcagct 180
aaaaaattcg cttcagggct tgaatctatc tgctgaactt ctagaccagg ctgttcaact 240
ggctaccaat gataatcttg accttggctg tgcagtcatt gaacgggctg cagctgataa 300
ggcaattcaa accatcgatg gtgaaatatc tcaacaactt aacctaaaga aacataggga 360
gggtgttgct ccagcatttt ttgaagccac tgtatttggt caaggttcaa tgggcattct 420
cccagaggct cttcgc 436

<210> 1457
<211> 352
<212> DNA
<213> Eucalyptus grandis

<400> 1457
gcgcggcgga ccgggggga gctggaaatg aagtgcccgt actgctcggc gtcgtcgcag 60
gggcggtgcg ccaccgccgg cggcggccgc tcgatcaccg agtgcacctc ctgcggccgc 120
gtcgtggagg agcgccacca cttcccctcc ctcccccccc aagccctagc cctcgccgac 180
gccgacgccg accccttcga gtccaccggc ttcatcaccg ccttctccac ctggtccctc 240
gagcactccc cgctctccct ccgctcctgc ctctccttct ccggccacct cgccgagctc 300
gagcggaccc tcgagtccac caacccctcc tcctcctcct cctcctcgtc ga 352

<210> 1458
<211> 364
<212> DNA
<213> Eucalyptus grandis

<400> 1458
gagaaattta agatcccggt ggagttcaac ggtttgccgg agtttgcccc anatgttact 60
cgtgacatgc ttgatgtcag gccgggggaa gctctcgcag tgaacttccc actccagcta 120
caccacacgc cagacgagag tgttgacatc accaatccaa gggatgggct actaaggatg 180
gtgaaatcgc tttctccgaa agtgatcaca ttgatcgagc aggagtcgaa cacgaacact 240
acaccgttcc tgacaaggtt tgtggagacc ctcgactact acttggcaat gtttgagtcc 300
attgacgtga ccctgcccag agacaggaag gagaggataa acgtggagca gcactgtttg 360
gcaa 364

<210> 1459
<211> 224
<212> DNA
<213> Eucalyptus grandis

<400> 1459
ctcagaagta cttcatcagg caatctaacg tgtcaaagag aaaacgacgt tccagtctgt 60
ttgatattgt ggcagaggaa tcggttgatg tgccaatggg atcaagggac ttctttgcgg 120
tcgacgagca acagcaggaa acagaagtaa atgatgcctt gcagcagctg ccacctgatg 180
ttgatgaaga atgtgaatct atggactcca ccaactcaaa tact 224

<210> 1460
<211> 363
<212> DNA
<213> Eucalyptus grandis

<400> 1460
gggaaaggcc ctcgaaaatg ggttcggttc ggcgtcaggc gagctcagga tccgatggcg 60
acccgaggct cggtggggtg gccgatgatg aaaggaagag gaagaggatg gagtccaaca 120
gggaatccgc caggcgctcc cggatgagga ggcagaagca gctgggggat ttggtcggag 180
aagtggggca actgcagcag gctaacgctc agctcgcggt gagtatcaat gctgctgcgc 240
agaagtatgc cgaggtcgag ttggcaaaca atgtcctcag ggcccaggcc atggagctta 300
ccgagaggct ccggtccctg aactcggtac tcgagatcgt gaggtggtca gtgggctggt 360
gat 363

<210> 1461
<211> 351
<212> DNA
<213> Eucalyptus grandis

<400> 1461
gtttgcccaa ccatggtcca ctccctactt caggagaaaa tatcttaatg tctgagcttg 60
cagagtgctg caaggaattg gaagaagggc accgtgcttg ggctgcacac aagaaggaag 120
cggcatggag gttgaaacga ctggagttgc agttggagtc ggagaaggcg tgcaggagga 180
gggagaaaat ggaagagata gaggcgaaaa tcaacactct cagggaagag cagaaagctt 240
ctttggataa gattgaaaca gaatacagag agcagctggc aggattgagg aaagatgcag 300
aatccaagga gcagaagctg gctgaacagt ggacggcgaa gcatgtcagc t 351

<210> 1462
<211> 209
<212> DNA
<213> Eucalyptus grandis

<400> 1462
gttcaatcag ctcgacccga ggatcaacag gaagcccttc agcgaggaag aggaagagag 60
gctcttgact gcacacaagc tgtgtggcaa taaatgggcc atgatcgctc ggctcttccc 120
cggccggacg gacaacgccg taaagaacca ctggcacgtg atcgtcgcga ggaagcagag 180
agagcagtcc aacaacgccc gcggccgga 209

<210> 1463
<211> 423
<212> DNA
<213> Eucalyptus grandis

<400> 1463
ctttggcttt ccttctccat ctctctcgct ctctctttgg gattcgtgtg ttctttcttc 60
ttttttgcac cacccgagat tttccgaaag ctgaagtggc cggggagtga agtttaagag 120
agagagagcc atcaccaaaa gcccgaagat catggggaga ggaaagatcg agatcaagag 180
gatcgagaac acgacgaacc gtcaggtcac cttctgcaag agaaggaacg gactgttgaa 240
gaaggcctac gagctctccg tcctctgtga tgccgaagtg gccctcatcg tcttctccag 300
cagaggacgc ctctacgagt actccaacaa cagcataagg tcaactatag agaggtacaa 360
aaaggctaat tcagatagtt caaacacaag cactgtcaca gagatcaatg cccagtatta 420
tca 423

<210> 1464
<211> 379
<212> DNA
<213> Eucalyptus grandis

<400> 1464
ctcgatacag ctcttaagcg catcaggacc aggaagaacc aactcatgca cgagtcgatt 60
tctcagctgc aaaagaagga aaaatctcta caggagcaga ataacgtgct ctctaaaaag 120

atcaaagaaa atgagaaggt aatgagagag agtggacaat gggagcagca aaccccagca 180
ccgaccacat cctccttcat gctacaaccc actttgcctc ttccttccct caccattggc 240
aacacgttcc agacaccgca tgtacttgga ggagcagaac aagaggagag atctcaagcc 300
cgaccagcca acacgctcat gccgccttgg atgatacgcc gttcaaatga atagagagat 360
agagaccaac aacattctc 379

<210> 1465
<211> 334
<212> DNA
<213> Eucalyptus grandis

<400> 1465
catcacacag gttgatttga gaactgaaat caagatcgtc gtcgtcgtcg tcgttctcgt 60
cggtgctgct cggccgcatt tgactcggcg taacgaacga agccggttgc gatctagggt 120
tgttgggggg cgcggaggaa gctcgagcct cggtcgtttg ttttcttttt ctttttttgcc 180
gatcatggaa ggcgtcggcg tcgatcacct ggccgatgag cggcagaagg cgcggttcga 240
cgtggaggag atgaaggtcg tctgggccgg ctctagccac gccgtcgagg tctccgatcg 300
catggcccgc tcgtcgccag cgatccggcc tttc 334

<210> 1466
<211> 371
<212> DNA
<213> Eucalyptus grandis

<400> 1466
tctctctctt cgaaaaccct ttctctctct ctctctctcc tctgtgattg cagatcaggc 60
tctcgcgcca ctccattcgc gcatctccga cctcctctct ccacgcggcc actgtcccgt 120
cgcgcgaatt cgccccgccg tcgtaggaga ccgcatcctc cgccgccgcg gcgatggcgg 180
cgctggcccg agctccattc cctacgctag caacgcattt ctttggaagt caggccaggg 240
gaaggaatca attactccct cgttactggc ccaggataac agatcaagag ctacaacaga 300
tccctggaga ctcaaactct gtaatcactc cgctgtttga gaaaatgttg agtgctagtg 360
atgcaggtaa a 371

<210> 1467
<211> 456
<212> DNA
<213> Eucalyptus grandis

<400> 1467
ggttgccgag ttgtgtggag tgccatttga gttccacgct gccgccatgt gtggaagtca 60
ggttgaacga gaggacctca gagtgcgacc tggcgaagct atagccgtga attttccctt 120
tgttttgcat cacatgccag atgaaagcgt cagtaccgat aatcaccgcg atcggctgct 180
gcgattggtt aagagtctat ccccaaaggt ggtcaccctc gtggagcaag agtctaaaac 240
caacacgtcc ccattctata caaggttcat agagactttg gactattata ccgcaatgtt 300
tgagtcaatt gatgtagcgt gccgacggga tgacaagcaa aggatcagtg cggagcagca 360
ttgtgtcgcc agggacatag tcaacatgat agcttgtgag gagacggaaa gggttgaaag 420
gcatgaactt ttggggaaat ggaggtcaag gtttag 456

<210> 1468
<211> 417
<212> DNA
<213> Eucalyptus grandis

<400> 1468
ggaacatcaa tcgaatccat ggcatcagag ctcctcagcc gctaatcaca ggcagctcaa 60
cctagagctc gcacttgagc catgttcacc atcctcgtca tcatcaccag catcactcca 120
tcctcttgca gttcctgcaa aagacaacaa gctttactca tgcaacttct gccaaaagaa 180

gttctatagc tcgcaagcac ttgggggtca ccagaatgct cacaagctcg agcgaaccct 240
agcgaagaag agcagggact tgtgctctgc cgcaaaacct cctgcggcga cctcgaatgg 300
tcaccatgta cggccatctt ttcaatctgt ggtttatgag aatcagccac gcttggccag 360
gcatgttggg gatgatatga ggtatgctgg gactaatccg ctgtatggtt catcttg 417

<210> 1469
<211> 460
<212> DNA
<213> Eucalyptus grandis

<400> 1469
aggatcgaga acaagataaa ccggcaagtg acgttcgcga agcggaagaa cgggctgctc 60
aagaaggcgt acgagctctc ggtgctctgc gacgccgagg tcgcgctcat catcttctcc 120
agccgcggca agctccatga attctgtagc ggcccaaggt atcgcgtatt tgtatgttat 180
cacttgtttt tctcgttaat gttatgatga gacatcaggg ggagaaaccc agaactgaga 240
tcacactgtt tcattaaatt ctctcgtcca aattctttcg ggaaaccctc agatcttggt 300
gatctggatc ttggtgctgc cctaaggaga tggcgattta ttggtttttc ttcttttttg 360
ggtttcagtt tcttgactct ttttgcgatc tttccgttca ccatgaaaaa aagctttcag 420
ccgcacagtt tcttgcttcc tggggtttct gatcttctct 460

<210> 1470
<211> 408
<212> DNA
<213> Eucalyptus grandis

<400> 1470
gaggaagccg tcgccgtcga gccgagtcag gaggtcttcg atcgcttctt cgccggcttg 60
ctcgttgatt cccccgaggg cggaccggcc gaggcgaccg acggcgcgag cgacaaggag 120
tccaattcat ccgacggcgg cggcggcggc ggcggcgaac gggatgagaa gctggtcgtc 180
ggagataacg agctttccga ggacgctgat gatgatgatc ccgtctctaa gaaacagaga 240
aggcagctca ggaataagga tgcggcggct aggtcgaggg agaggaagag aagttacgtg 300
aaagagctgg agatgaagag caaatatatg gaaggggaat gccgcaggct ggggcggttg 360
ctccagtgct ttgtggctga gaatcaactc tgcgtctgaa tttggaga 408

<210> 1471
<211> 530
<212> DNA
<213> Eucalyptus grandis

<400> 1471
gcagaatctg tagtatatat gacgatgaaa gggaaatcta tcactgccct tactgtaact 60
tgtgtcgtgt gggaaaggga ttgggcattg actatttcca ttgcatgaac tgcaatgcct 120
gcatgtcgcg ctccctttca gttcacaaat gcagacagaa atgcttagaa gataactgtc 180
ctatttgccg tgagtacatt tttacatcga actctccagt aaaggccctc ccctgtggcc 240
acttgatgca ctcggcatgt ttccaggagt atacttgtac tcactatact tgtccgattt 300
gtagcaagtc actaggggac atgcaggttt attttaaaat gttggataca cttttggccg 360
aagagcaaat gccagatgag tattctggca agacccaggt tattctctgc aatgactgcg 420
agaagagagg aagcacatct tttcattggt tttatcacaa gtgccgtcat tgcggttcat 480
ataacacgag gctgctttga ttccaaccta agacgcatat atataactct 530

<210> 1472
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 1472
ttgccgccca actgaagcac agctgcgagc tactgggtga gaaggacggc gcgggcagct 60

ccggtataac caagggcgag acaccacggc tcaagttgct cgaccagagc ctgaggcagc 120
agagggcttt ccaccagatg ggcatgatgg agcaagaggc ctggaggccg cagcggggcc 180
tgccggagcg gtcggtcaac atactgcgtg catggctctt cgagcatttc ttgcatccgt 240
atccaagtga cgctgataag catctgttgg ctcgacagac tggtctctcc agaaaccagg 300
tctcgaattg gttcataaat gccagggtcc ggttgtggaa acccatggtg gaggagatgt 360
accagcaaga gtccaaagaa g 381

<210> 1473
<211> 567
<212> DNA
<213> Eucalyptus grandis

<400> 1473
cacggcaaca aatggaagac aagacgctgt tcttcctcac tgagggatcc cttctttata 60
cctggtttca ggtagttctt ccacctctct aagcaggact tggcatcacg gttaagggga 120
gtgttcatgc gctgagacac aaggtgccac tcccttgggc catactgttt cacatatgca 180
cgtaacaagg cgtcctcttc agctctccaa cgctgtcttt ccttcattgc caggtgtaga 240
caccacttcc cattgcctca aacttagatc tttcatagtg tggctacaga agaagatggt 300
gataatacaa attagaagta atttctcaca tcacaatata atacacgaca ttttagctga 360
gttaactggt ctgagaaaag aaaagaatcc caaggaggag acaggtttat ccaaggaaat 420
gcccggcttn catggcttct gcggtccata cgggatggcc atcgacggtg gtcatagcgg 480
aaatgctaac agtttcatgg agaattgcca gagattgaac atgctcgttc catacgatca 540
gggccatgat caggagcaga tcaacgc 567

<210> 1474
<211> 423
<212> DNA
<213> Eucalyptus grandis

<400> 1474
tcccgctcca ttcacagatc agcggcactt cttgcgcaga caattgcaga ctctctctct 60
cattcaggcg cctgtcttct caagaatttt gtcaaagaaa ctcctttgtt ttttctctct 120
ctctctctct ctctcgacca tggcccgacc gcagcagcga tatcgcggcg tgcgccagag 180
gcattggggc tcctgggtct ccgaaattcg ccacccgtta ttgaaaacaa gaatttggct 240
agggacgttt gaaacggccg aggatgcggc tcgagcctat gacgaggcgg caaggctaat 300
gtgcgggccg agggctcgga ccaacttccc ttacaaccca aacatgtctc agtcttcttc 360
gtcgaagctc ctctcggcga cattgacagc aaagctccac aggtgctaca tggcctcgtt 420
gca 423

<210> 1475
<211> 402
<212> DNA
<213> Eucalyptus grandis

<400> 1475
ccaatcttca ctccccctat cccctctctc tctctctcaa gaactaagag cttactatgg 60
aaagcgaacg ctacgatgag acgacagaga agcagcgaat caggagaagg ccgcaccaga 120
agccgtacag gggtatccgg atgaggaagt ggggtaagtg ggtggctgag atcagggagc 180
ccaacaagcg ctcccgtatc tggctcggct cctacgccac cgccgtggct gccgcccgcn 240
cctacgacac cgctgtgttc tacctccgtg gcccctctgc ccgcctcaac ttccccgacc 300
tcatcttgca cgagggccag gactcgctgg gtgaggtctc agccgcctcc atccgcaggc 360
gtgcagctga ggtcggggcc caagtttgat gcttgtccaa gc 402

<210> 1476
<211> 269
<212> DNA
<213> Eucalyptus grandis

<400> 1476
gaggagatgg cgagggggaa gatccagatc aagctgatag agaacacgac gaaccggcag 60
gtgacctact cgaagcgacg gaacgggctn ttcaagaagg cgaacgagct caccgtcctn 120
tgcgacgcca aggtctccat catcatgatc tccagcaccg gcaagctcca cgagtacatc 180
aagctcctcc acctcaacga agaagatgta cgatcagtat cagcaggcgc tcgaggttga 240
tctctggagc tctcactatg agaagatgc 269

<210> 1477
<211> 297
<212> DNA
<213> Eucalyptus grandis

<400> 1477
ggcaaccagt gtgagatgct cctgctgtca cactgtcaac cttgcaccag ttacacctgc 60
ttccaatcaa tatgctcatg taaattgcgg aaactgtcgg acgatgctga tgtatccatc 120
tggagctcca tctgtgaagt gtgcgatctg tcaatttatt actaacgttg gtgcgggcaa 180
tccaagggtt tctgttccac cacaaagaat cgatggacca ccgtcaggga caacaccgtc 240
tacttcaacg tcaatgcccc aatctactca aactgtagtg gttgaaaacc ccatgtc 297

<210> 1478
<211> 408
<212> DNA
<213> Eucalyptus grandis

<400> 1478
ggctgtctct acaacttcaa atgcaattat tggcctcaga gacagtagac ttgtcccgca 60
gcttgttgaa ctctgccatg ggttcatgta catgtggagg tcaatgaatg aataccatga 120
gattcagaac aacattgtgc agcaagtccg gggccttgtg aaccgagcaa acaagggtga 180
atctacttct gaattgcatc ggcaggcaac tcgtgacctc gaatcagctg tttcttcatg 240
gcattccagt ttctgccgct taattaagtt ccagtgtgat ttcatccgtt cccttcacgg 300
ctggttcaaa ctgactctcc ttcctgttga caatgataac aatgggaccc aggaacactc 360
tgatgcctat gccttctgcg atgagtggaa gcttgcacta aacatgtc 408

<210> 1479
<211> 317
<212> DNA
<213> Eucalyptus grandis

<400> 1479
attatatcgt cgtgtctatt tcccgaaata tttgcataac tactagctgg gtcctgtcgt 60
aagccttaca ataaatctac tattagctga gtattgggtg tcgaataatt tgcacgaagc 120
cacgaactat tggcaatcga tctcatggct tcctcgagcg gaacgtcttc cgggtcaacc 180
ttgatccaga actcgggatc agaggagagt ctgcaggcct tgatggatca gaggaagagg 240
aagaggatga tctccaaccg cgagtcggcg aggcggtcgc ggatgaggaa gcagaggcac 300
ctggacgatc tgatgct 317

<210> 1480
<211> 411
<212> DNA
<213> Eucalyptus grandis

<400> 1480
tgtcattcca ttgaacactt tgccatggaa gtgcaagaag atgatgacca ggtttcacca 60
gaaacggtga accccaaaac accctctatt gaggaagaat ctgctaaaac gaaagcttct 120
ggcatcgatc aagaacaggg cgattcgtcg aactcgcagg agaagccccc cctgaagaag 180
ccggacaaga tcataccttg cccgcgatgc aacagcatgg acaccaagtt ctgctactac 240

aacaactaca acgtcaatca gccccggcac ttctgcaagg cctgccaaag atactggacg 300
gccggcggta ccatgcggaa cgttcccgtg ggagctgggc gccgcaagag caagagctca 360
gcttcgcatt atcgccagat cactctctct gangctcttc aagcaagctc g 411

<210> 1481
<211> 401
<212> DNA
<213> Eucalyptus grandis

<400> 1481
gtccgtggag ccatcgaacg tcccagagcc acgggaaaat tggctgcgcc tgtaaactcg 60
cccagcatgt cctcatcatt ggacctgaag aattcttgca tggatgcaaa tgccaaccct 120
gtgagcattt tgcaacctgg tgtagtgcca cctgaagcct ggttacagaa tgaaagagaa 180
ctgaaaaggg agaggaggaa acagtcgaac cgtgaatctg ctagaagatc aagactgagg 240
aagcaggctg agactgaaga acttgccaaa aaggtggatt ctctgagtgc cgagaatagg 300
gctcttaaat ctgaaattag tcaactaacc gagaactcgg ataaattgag gctagaaaat 360
gccacattga tggaaagact ggaaaatgca cagggagtgg a 401

<210> 1482
<211> 438
<212> DNA
<213> Eucalyptus grandis

<400> 1482
gtactgcggg ctcagctgat ggaattgacc gacaggctgc ggtccttgaa ttcagtgctt 60
caggtcgtgg aggtggttag cgggctcgcc atcgatatac ccgagatacc tgatccgctt 120
atgaacccat ggcagctgcc ctgcccgatg cagccaatta cggcgtctgc cgacatgttg 180
cagctgtgag catcagattg gaagtgtaaa agttggggct gattcttttg gagtcccctt 240
ctggggggat ggtagatcca tagccatttg ctgcttttgt ttttcttgtc aattccgttc 300
tctttcttga agttggaact ccaatatctg tatgcgtctg tctagatgga ctggcgcttt 360
tatgtctgct tgacattgta cttggctgtt cttgcttgtt acttatggga tgttcctgtt 420
ctaaaaaaaa aaaaaaaa 438

<210> 1483
<211> 370
<212> DNA
<213> Eucalyptus grandis

<400> 1483
cagtcgggtt tgccgttaga tgataggccc gagggagctc gctccccttc tccggaacct 60
atatatgata atatggggat taggatcaat acgagagagt atcgtgctcg tgagcgtctg 120
aacaaggaga gacaggacat tattacacag attattaagc ggaatccagc gtttaagccc 180
ccggctgatt ataggcctcc caagctacag aagaagctgt acataccgat gaaagagtac 240
cccggttaca attttattgg acttataata ggacctaggg gcaataccca naaaaggatg 300
gaacgtgaaa ctggtgcaaa gatcgtcatt cgnggaaaag gttcagtgaa agagggtagg 360
ttgcagcaga 370

<210> 1484
<211> 335
<212> DNA
<213> Eucalyptus grandis

<400> 1484
gaggaggaga gcaggaagaa gggcggcggc ggtagcggcg agtcaaacca gggagggaaa 60
ggctcgaggt cggatcagga gagaaggaag gggattgctt ggaccgagga agaacacagg 120
tggggtcttc ttcttgtcaa tcggttattt cttctaggcc tagataaata tgggaaaggc 180
gattggcgaa gtatttcccg gaactttgtc gncacaagga cgcctacgca agttgcgagc 240

catgcacaga agtattttat ccgtctgagc tctgttaaca aagataggag gcgatctagc 300
attcatgata tcactaccgt aggcagtgga gacct 335

<210> 1485
<211> 371
<212> DNA
<213> Eucalyptus grandis

<400> 1485
gtggttttgc cgtcctcggg gatggtgaaa tcgagcggag gcgcggggga ttctgatcat 60
tcagatcttg aagcgtccgt cgtgaaggaa gctgatagta gcagagtcgt tgagccggag 120
aaaaggccgc gaaagcgagg taggaaacct gccaatggcc gagaggagcc attgaatcat 180
gttgaggccg agaggcagag gagggagaag cttaaccagc ggttttacgc gctccgggcc 240
gtggttccta atgtttccaa gatggacaaa gcgtcacttc ttggcgatgc gatagcgtac 300
atcaaggagc tgaactcgaa gctccagacc acggaatctg acaaggagaa tctgcagaag 360
caaatggaat c 371

<210> 1486
<211> 373
<212> DNA
<213> Eucalyptus grandis

<400> 1486
accaccacca gtaccaccac ctccctctct ctctctctct ctctctctcc ttttccctct 60
gttcgtgttc ggtacgattg cgaagcggaa agcgaatgct cctctccgga ttgccatgaa 120
ctccaacgct tcctccaacc cccagtcgat ggccacctcc acgacgtcgg cgaccactcc 180
ggcggcgggc ggcgacggcg gcaagaaggt caggaagccc tacacgatca ccaagtccag 240
ggagagctgg accgaggagg agcacgacaa gttcctcgag gccctccagc tgtttgaccg 300
cgattggaag aaaattgagg attttgtggg ctcaaagact gtcattcaga tccgaagcca 360
tgcccagaaa tac 373

<210> 1487
<211> 319
<212> DNA
<213> Eucalyptus grandis

<400> 1487
gagatggtag ttaatacgag cctcggagag cagctcgacg gatgatgatg atttgtacaa 60
gaaaccaagg gaagaaacaa taaaggcgaa gatcacgagg gtttattata ggaccgaagg 120
gccaggcact agccttattg tgaaagatgg acaccagtgg aggaagtatg gacaaaagat 180
caccagggac aacccttgtc ccagagctta cttcaaatgc gctcacgctc caagctgcct 240
tgtcaagaag aaggtgcaaa gaagtgctga agaccaatcg gtcatagttg cgacttatga 300
aggcgagcac aaccatcca 319

<210> 1488
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 1488
attccattta gcctctttcc tcctcaatcg gaagggttct tcaacccaat ggacggcaac 60
ctctcattgc aaatcggata caatccgaca tgtctggacg agatgaatgc ttcggtttcg 120
agccaaaatg ttgccggatt cattccggga tggatgcttt gaacttacta catcgacttg 180
gagtgtgaat cgagctggtg aaatttgtgc gcgtgtccct tgtaaaattg cgatccgcaa 240
gacaataagt acataatatt ttggagctgt gatgacataa aaagaggaag gccacccttt 300
cctctctcat gatcagaact tttgataatg tctgtatggc ccggcagtgc aattggaacg 360
agctcagctt tgcagttctt ttcg 384

<210> 1489
<211> 411
<212> DNA
<213> Eucalyptus grandis

<400> 1489
aagagttgcc gcctccggtg gatcaactac ttgcggcccg acctcaagag gggcgctttc 60
tccccacaag aggaggagct gatcatccac ttgcattcca tccttggcaa caggtggtcg 120
caaatcgcgg ctcggttgcc gggacggact gacaacgaaa taaagaactt ttggaactca 180
accataaaga agaggctcaa gaactcgtca tcatcttctt gtagacactc gccaaacacg 240
agcgattcct ccttgtcatc agacgttaaa gatgtcatgg gaggtctcat ctcccttcag 300
gaacaaggac tcatgccact ttatatggac tcgttgtcgt ccgtgcaagc tttggctctt 360
aaccaggtta tcgatccatt actaccctca ctcaaccaaa ggcctcgacc t 411

<210> 1490
<211> 396
<212> DNA
<213> Eucalyptus grandis

<400> 1490
gaaaaatggg gagagggaag attgagataa agaggattga gaatgcaaat agcaggcaag 60
ttacattctc gaaaaggcgt tctgggttgc tcaagaaggc gcaggagctc tctatcctct 120
gtgatgctga ggttgctgtc ataatcttct cgaatactgg caagctttac gagttctcca 180
gttctggaat gaaacagata ctatcaagat acaacaggtg tcaagattct ccagagtcca 240
ctgttgtaga gtacaagcca gagtctacga aagaagatga taaggtggta gacaccctaa 300
aagatgaaat cgcagagctg cagatgagac aactaaggct actgggcaag gacttgaatg 360
gcctgagcat aaaggaattg cagcaccttg aacagc 396

<210> 1491
<211> 188
<212> DNA
<213> Eucalyptus grandis

<400> 1491
tggatgttac ttattgttca attggatttg actccaggta acccatggac ggaggaagag 60
catcgaaggt ttttaattgg tctccagaaa ttgggtaaag gagactggcg agggatagct 120
cgtgactttg tgactacaag gactcctact caagtggcaa gccatgccca gaagtattat 180
atccggca 188

<210> 1492
<211> 461
<212> DNA
<213> Eucalyptus grandis

<400> 1492
caccggaaac agtccatgtt cagaattatt ctccaattca tcaaatgggc attgatggat 60
tctttccagc gcatccctcc ccacagaatc cttcgtacca ttcttactcc cccaacaata 120
gacccaattt ccctcctccg tcccctcaaa cttcacagtg ggactatttt tggaacccct 180
tttcatccct ggactactat ggataccccca ctcggagtag tattgatcat atggctatgg 240
atgatgagac cagaggattg aggcaggtcc gagaggaaga ggggattcca gacttggaag 300
aagaaactga gcacgaagaa tgtgatcacc actcgtatgt tgatgaagat agaggcaaca 360
gagatgctaa tttccccact gaggaagttt tagtggaaga tgttgatgac aggaagagga 420
tgaggatgaa ggaacagaca cagctgtgaa tctgaggatg a 461

<210> 1493
<211> 445

<212> DNA
<213> Eucalyptus grandis

<400> 1493
gtttcgaaga agggcgagcc aataagcaat cggcatcata tacagaagat ggtgagcttt 60
ctgaaatgct tgataaggta ttgctcggct gcggtttagg gggtcaaatg tcggggtgca 120
cacccgagaa catgagccaa tccaagggcc cacctggtcc aaagggtggc agggttcgcc 180
gtaagaaggg aaataagagc acagcagact tgaggagtct tctgattctc tgcgcccaag 240
ctgtctctgc taatgacttc aggacagctt atgaactgct aaagcaaatt agacaagatt 300
cttctgcctc tggtgatggc tctcaaagat tggcgcatta ctttgccaat gggctggaag 360
cacgccttgc aggcagtgcc ggtgatagac aaaccttttt ctattcttcc gaattgcaga 420
agaggacagt agctgataaa gttga 445

<210> 1494
<211> 419
<212> DNA
<213> Eucalyptus grandis

<400> 1494
cggaaccggt ggcaattgga tcgctcttcc tcgcaaagcc gggcttaagc gctgcggcaa 60
gagttgcagg ctaaggtggc tgaattacct gaggccagac ataaagcatg gaggtttcac 120
tgaggaggag gatcacgtca tctgcactct tttctttacc ataggaagca ggtggtcggt 180
aattgcttcc aaattgccag gaaggacaga taatgatgtg aagaactact ggaacaccaa 240
gctgaagaag aagctaatga agcaactggc ttctctgaaa acagtgcctg aaagtaactt 300
tgactatcag gtctgcgcac agaactcggc ctcaatcgat cctgagacca agaatcggga 360
atatgctgct aattcaatgg gattccccaa gcagaacttc aatccaggaa tacccactt 419

<210> 1495
<211> 388
<212> DNA
<213> Eucalyptus grandis

<400> 1495
ccaatggtga cagtgttaag gatgaccttg atacagatga atatgaaact catgccacag 60
ttttggataa gctattagca tgggagaaaa agctctacga agaagtgaag caaggtgagc 120
acatgaagct agagtatcag aaaaaggtgg ctttgctaaa caagcagaag aaacgtggtg 180
ctagtggtga atccctggag aaaacaaaag cagctgtaag tcatttgcat acgacataca 240
tagttgacat gcagtccatg gattcaactg cttcagaaat aaaccacata agggacaaac 300
agctgtaccc aaagcttgcg caacttgtcg atgggatggc gaatatgtgg gaaaaaatgc 360
gcatgcatca tgataagcag gagtctat 388

<210> 1496
<211> 417
<212> DNA
<213> Eucalyptus grandis

<400> 1496
ctccctcctc ctccaaacgt ttccgtttct ctccaagctg aacatggaca agaagccaga 60
cgacgacagt ggtaagtccc aagatgtcga ggtgagaaaa gggccgtgga cgatggaaga 120
ggatctcatc ctcatcaact acatagcgaa tcacggcgaa ggcagttgga actccctagc 180
caaagctgct ggtctaaaac gtaccgggaa gagttgtcgg ctccggtggc tgaactatct 240
gcgacccgac gtccggagag gcaacatcac tactgaggag cagctcctga tcatggaact 300
gcatgccaag tggggaaaca ggtgagatgc acataagtca cacaactttt cgttacatag 360
gttctacaac ataataccca tcgatcatat tgaaacaagg tccccgtggn atcacga 417

<210> 1497
<211> 404

<212> DNA
<213> Eucalyptus grandis

<400> 1497
catggacatg ctgaagagga caagaagctc atcaacttca tcctcaccca tggccaatgc 60
tgttggcggg ctgttcccaa gcttgctgga ctgctgcggt gtggaaagag ttgcaggctg 120
aggtggacca attacctgag gccagacttg aagagaggcc ttttgtccga gtatgaagag 180
aaaatggtca ttgacctcca tgcgcaactt ggcaacagat ggtcgaaaat agcctctcac 240
ctcccgggaa gaacagacaa tgagatcaag aatcactgga acactcacat caagaagaag 300
ctcaagaaga tgggcattga tcctctcact cacaagccat tagtcaccaa caacgacaac 360
acaaccgatc aacaaccccc ccaagcagcc cagacccatc ccca 404

<210> 1498
<211> 340
<212> DNA
<213> Eucalyptus grandis

<400> 1498
gtcagaggca atcccaatcc aaggagttac tacaagtgca caaatgctgg atgccctgtg 60
aggaagcatg tggagagggc ctctcatgat ccaaaagctg ttattactac ttatgaggga 120
aaacacaatc atgatgttcc cactgcaaaa tctagcagcc atgacactgc agctccctcc 180
gctctaagtg gactgccaag aacaagatca gaaggtgaaa cagtgagcct agatcttggt 240
gtgggaagaa gtgcggcatc agaaatggcg tcagctgaga agcagcagat cctccggcca 300
aaccctgtcc aaagtcgaat ccactatgcc agttccgctt 340

<210> 1499
<211> 311
<212> DNA
<213> Eucalyptus grandis

<400> 1499
gagatggcga ggacaccatg ctgtgagaag atggggatga agaaagggcc gtggactcca 60
gaggaagacc agatcctgat ctcccacatc caccagtttg gtcactcaaa ctggcgtgca 120
cttcctagac aagcaggtct gttaagatgt gggaagagtt gcagactccg gtggataaac 180
tacttgcgac ccgacgtgaa gcgagggaac ttcaccgacg acgaaagaga caccatcatt 240
gaacttcatc aagttcttgg caacagatgg tcggccatag cctcgagatt gccggggcga 300
acggacaatg a 311

<210> 1500
<211> 324
<212> DNA
<213> Eucalyptus grandis

<400> 1500
gttgaatggg gattcaaaca atggcttcac aaggcggcgg cggcagcagc ggtaatgcca 60
gaggtggcgg tggcaataat ggaaaatcca ctgaagttca gccattgact cggcagaatt 120
caatatacag tctcactctt gatgaggttc aaaaccagtt aggtgattta gggaagccat 180
tgagcagcat gaacctggac gagcttttga agaatgtctg gacagctgag gccggtcagt 240
caatgtttat ggatgttgag ggcacggctg tggctaatca aaatgctctc cccgtcagg 300
gaagcgtttc attaactggt gcat 324

<210> 1501
<211> 380
<212> DNA
<213> Eucalyptus grandis

<400> 1501

ctctctccct ctccctctcc ctctccctct ccttctccct ccctctcttc gatgacacgg 60
ggctagataa gtttagggtt tcttgagttc ttgctctctc tctctctctc cctgtagaga 120
ttttttattg gagctttttt tttttttttg gttcctggtg ttcttgtcgt tggtcatagc 180
aagaaaagag agatggggag agggagggtt cagctgaaga ggatcgagaa caagatcagt 240
aggcaagtga ctttctcgaa gcgacggact gggttgctca agaaagccca cgagatctcc 300
gttttgtgcg acgccgacgt cgctctcatc gtcttctcca ccaagggaag cttttcgagt 360
tttcgactga ctcttgcatg 380

<210> 1502
<211> 347
<212> DNA
<213> Eucalyptus grandis

<400> 1502
gaactacctc tgagagtcga cgactcagag gatatgttgg tatatggcgc tttgtgcgat 60
gcactcagtt ctgggtgggc gacgccttcg gcttcgaatc aagaacttga tttcgaaacg 120
aggactgttg ataacgacgg cattggtctg gagctgcaga cgagaccgga gatggtgaag 180
cgcgagatga gagcgccagt caggacggtg cattacagag gagtgaggag gcggccatgg 240
ggaaaatatg cagcagagat aagagacccc aagaagaacg gcgcgaggat ttggctcggg 300
acttacgagc tgcctgagga cgcggcattg gcctatgacc ggccgct 347

<210> 1503
<211> 312
<212> DNA
<213> Eucalyptus grandis

<400> 1503
ggtttgctca gatgcagcaa gagctgcagg ctcagatgga ctaattacct ccgtcccggt 60
atcaagcgcg gtagcttcac ggaccaagag gaaaagatga tcgtccacct tcaggctctt 120
cttggtaata ggngggcggc catagcttcg taccttcctc agaggactga caatgatatc 180
aagaactact ggaataccca tttgaagaag aagctgaaga agcttcaagg ccaagcaaat 240
cctgatgatg atgaccataa tcatcaccca caagggttca acgcaacttc acactccaac 300
cccaagggcc ag 312

<210> 1504
<211> 468
<212> DNA
<213> Eucalyptus grandis

<400> 1504
agcacggtct catgagcact cgcaattaga aattaatcct ccatcagaag catcaaaaga 60
gccactccca gatgaaccat ctcttatgcc aaatgaggat tcacatcagc tctctccatc 120
agaagctacc acttccatgg ccgaatcctc tgatttcgtt agttccagtc acaaatggga 180
agctcttccc atggttctag agaagcccac tgaagatggg tataattgga ggaagtatgg 240
ccagaagcag gtcaagggct gtggttttcc caggagctac tataaatgta gccatctcaa 300
ttgctcagtc aagaaaaagg ttgagcattc tcttgatggt cgtataacgg aaattactta 360
cagagggcaa caccagcatg aaatgcctca agccaaaagg acttcaaaag atggtaacaa 420
cttgaacagg agcacaaatt ctctggctaa atctcaagct gttcttca 468

<210> 1505
<211> 415
<212> DNA
<213> Eucalyptus grandis

<400> 1505
caagctacaa tggtgattca tatcacttga tatttaagaa ttgcaaccac ttctgcaagg 60
atgtttgtta caagctgaca gggaaaccga ttccaaagtg ggtcaatcga cttgcgacaa 120

taggttctgc ctgcgactgc ttccttcctg aaacccttaa gatcactgca gtacgtcatg 180
aacctaactg ccaaccatgc gaaagtgaga agcggaggtt aacaaacaac ttcagttgcc 240
tgtcttctat atcaatgagg cagaagcagt tatctacatc ctcattattc cttcgttctc 300
ccctgagagg ctgtctaccg ccttgggaac tcaaaaggtc taacaatggc tccttgaagg 360
aaagatgaga aaatgcccag agtgaaacta catcacaagc gatcatggag cgctg 415

<210> 1506
<211> 512
<212> DNA
<213> Eucalyptus grandis

<400> 1506
ctctattcca ctcctaattc atgcttttcg tgacaataat tttgtagcat gctcaaaact 60
ctagagagat atcagaagtg caactatgga gccctggagc cgaacgtgtc cgcgagagaa 120
tccttggagt taagctgtca gcaggaatat ttgagactta aggcacgtta cgaagcccta 180
cagcgaactc aaaggtattg aagtttctat tgtcctttta attaaatgtc agcattcgcg 240
ggatgtagtt attttcctac atgattgggg tctatctgtg tcatcgngaa ctaggaatct 300
tctgggagaa gaacttggcc agttaagcag caaagaactc gagtccttgg aaagacagct 360
agatgggtca ttgaagcaga tcagatcacg aagagtatgt aaattatatt cacgaattct 420
atctaagtca catcctgagt tattgngaat acaagttact gnngtcaatc gctgggatta 480
gtggtcatcg gtctggctaa ctttagtagc ga 512

<210> 1507
<211> 342
<212> DNA
<213> Eucalyptus grandis

<400> 1507
tctagaacaa gatcaacagg caagtgacgt tcgcgaagag gaggaatggg ctcctcaaga 60
aagcctacga gctctccgtg ctttgcgacg cggaggtcgc tctaatcatc ttctcccata 120
gaggaaagct gtacgagttc tgcagcagct caagcatgct caaaaccttg gaaaggtatc 180
aaaaatgcaa ctatggagca ccggagccta gcatctctac ccgggaagca caactggagc 240
taagcagtca gcaggaatat ctgaaactta aggcacgcta tgaagcccta cagcgaacgc 300
aaaggaatct tcttggggaa gaattaggcc ctctgagcag ca 342

<210> 1508
<211> 413
<212> DNA
<213> Eucalyptus grandis

<400> 1508
atgacctcga actaaaagtg cgagaactgg aaactgtcat gctaggaccc agctcagata 60
tgccccacac ggttgatatc aacttcttgg ttggatctgg ccagatgtct caggagacgg 120
agacattgat ggagattatc tccaggaggg acctaaagga gattctctgt gcttgtgcta 180
aagcagttga agacaacgac accttaaaat ttgagtgttt aatatcagag ttacgcccga 240
tggtgtctgt ttccggtgac ccgatccaac gattatcagc atacatgttg gaagggctca 300
tagcaagatt ggcaagttcg ggaagctcta tttacaaagc tttaaagtgc aaagagcctg 360
ctggtgcaga gctgctatcg aacatgcaca ttctctatga tatatgtcct tat 413

<210> 1509
<211> 296
<212> DNA
<213> Eucalyptus grandis

<400> 1509
attgaatgaa ccgggcattt cgggtgaagg aatacaagaa gcccgcgccg tgcaaaattc 60
aacagattcg gagattgtag gtgatggatt tcggtggagg aagtatgggc aaaaggttgt 120

gaaaggaaac ccgtatccca gctactatag atgcaccagt gtcaagtgca atgtgcggaa 180
gcacgtcgaa agagcttcag aagatccgag agcctttata acaacatatg agggaaaaca 240
taaccatgag atgccactaa gaagtaccac acagcaggct cagagtccga tctgca 296

<210> 1510
<211> 441
<212> DNA
<213> Eucalyptus grandis

<400> 1510
attccttctt ctctctcttc gaaaaccctt tctctctctt cgatctctct ctctttctct 60
ctcctctgtg attgcagatc aggctcccac gccgttccat tcgcgcatct ccgacctcct 120
ctctccacgc ggccactgtc ccgtcgcgcg aattcacccc gccgtcgtag gagaccgcat 180
cctacgccgc cgcggcgatg gcggcgccac gaggagatgc caggggaagg aatcaattac 240
ttcctcgtta ctggcccagg ataacagatc aagagctaca acaaatctct ggagactcaa 300
actctgtaat cactcctctg tttgagaaaa tgttgagtgc tagtgatgca ggtaaaattg 360
gacgtttagt gctgccaaga aaatgtgccg aggctatttt ccggctattt cccagcctga 420
aaggatttgc cgtcaaagtt c 441

<210> 1511
<211> 315
<212> DNA
<213> Eucalyptus grandis

<400> 1511
tgatgggaaa ctctcatgtt cttccaatct gaagagcttc ttcacaacag ctgcgtcacg 60
aggtgatttc cagattcaat ggtccgagtt cgccggacgc ggcggcgctg ccggtagcat 120
ctaaaagcat tgacctggaa agaaatagga ggaagaagct caatgaaagg ctcttcgcac 180
tcagagccct tgtacccaag ataagcaaga tggataaggc ttcgatagtg aaagatgcta 240
ttgattacat ccaagacttg cgtgaacaag aaggnaagat ccgagccgag atcgcagagc 300
tcgaatctgt aattc 315

<210> 1512
<211> 409
<212> DNA
<213> Eucalyptus grandis

<400> 1512
gagagacaga agaattagaa cgacacgaac aggcaagtga cctactcgaa gcggaggaat 60
ggcatcttca agaaagccca cgagctcacc gtcctctgcg acgctagggt ttccatcctc 120
atgctctccg gcaacaagaa gctccacgag tacatcagcc ccaccaccac gacaaaaagg 180
atgattgatg attaccagaa ggctcttggg atcgatctgt ggactacaca ctacgataga 240
atgcaagagg agttgaggaa actgaaggag gttaataaca attttcggaa ggaaataagg 300
cagatattgg gccacgattt gaacgagctg agctacgcag aactgcacag tctccgagca 360
gacgatccga gtcttctgtc aattcaagtg cgggaaagaa agtaccatg 409

<210> 1513
<211> 323
<212> DNA
<213> Eucalyptus grandis

<400> 1513
ggagagagtt gagaggcctg agacatataa gcagtggcaa atccgcaaca cgagggcggg 60
ttttaagccc ctccccctgg atcccgtaat tatgaagaag ctgaagtcga aattgaaaga 120
ggggtacctt gatgatttcg tggttgacaa agatggtcaa tggatgctcc aaggatggaa 180
aggtcggatt ctttatgctt cctcctgttg ggaacctgtg tagaatttct ccaagtcttt 240
atatgcttgt ccttttggtg tgagccgggg atagtttatg acgaccaagg aggaagctgt 300

tggctgattc gtggcaagta agg 323

<210> 1514
<211> 285
<212> DNA
<213> Eucalyptus grandis

<400> 1514
gtaatggaan gccacgagga gatnccaggg gaaggaatca attacttcct cgttactggc 60
ccaggataac agatcaagag ctacaacaaa tctcaggaga ctcgaactct gtaatcactc 120
ctctgtttga gaaaatgttg agtgctagtg atgcaggtaa aattggacgt ttagtgctgc 180
caagaaaatg tgccgaggcc tattttccgt ctatttctca gcttgaagga ttgccactca 240
aagttcagga tgccaaaggc ttcggagtgg atatttcaat ttcgt 285

<210> 1515
<211> 290
<212> DNA
<213> Eucalyptus grandis

<400> 1515
aaaacactag tggaggccca gaattcggac acgaggttca gttagtggtg atataagttg 60
gcaaggcact gacaaacatg gactccctag ggatgccttc ttgcttcccg gaatgtcggc 120
cccagagagg aaaagagcac gcaacattgg gtccaaaagt aaaaggctgt tgattgacag 180
tcaagatgct cttgagctga aaatgacatg ggaagaactc caggatttgc ttcggccacc 240
gagtgttaac ccaagcattg ttacagttga agaccatgag tttgaagagt 290

<210> 1516
<211> 357
<212> DNA
<213> Eucalyptus grandis

<400> 1516
gttcagttag tggtgatata agttggcaag gcactganaa acatggactc cctagggatg 60
ccttcttgct tcccggaatg tcggccccag agaggaaaag agcacgcaac attgggtcca 120
aaagtaaaag gctgttgatt gacagtcaag atgctcttga gctgaaaatg acatgggaag 180
aactccagga tttgcttcgg ccaccgagtg ttaacccaag cattgttaca gttgaagacc 240
atgagtttga agagtatgat gaacctccgg tttttggaaa aagcagtatt tttatacttc 300
gctccactgg gggacaagag caatgggttc aatgtgatag ctgtggtaaa tggagaa 357

<210> 1517
<211> 416
<212> DNA
<213> Eucalyptus grandis

<400> 1517
caagattctt ctcccctttc gttccttcga gggtccaaaa cttctctctt tctctctctg 60
tgtgcggctg gaagagagat cttggaggct gtgaatcttg gtttctttct cttttggttg 120
acgggtcaca taacacgaat ctagggttct tgatctttgg tgggtgtctt tcgaattcga 180
aggaagaaaa gccaagaaac aagaaaatgg gtgtggagac cacctccgga tcgggctcgg 240
aatgcgagac gcgtgtgatg ctgaacgtct acgatctcac gcccattaac aattacaccc 300
gctggttcgg cttcggcatc ttccattcgg gcattgaagt tcatggcaaa gagtatgggt 360
ttggtgccca tgacttccct gttagtgggg tttttgaagt ggaaccaaag agctgc 416

<210> 1518
<211> 218
<212> DNA
<213> Eucalyptus grandis

<400> 1518
attcgaccag tgtcggtacc aaaaccacca cggctctccc catctcctcc ggccgaaagc 60
cctctcaatg aagcgggtgg gagtccctcc gaaacccaac aagctttaca ggggagtgag 120
gcagaggcac tggggaaat gggtggctga gatcagactt cccaagaaca ggacacgcct 180
ctggctcggc actttcgaca ccgccgagga ggctgctc 218

<210> 1519
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 1519
ctcaaaccag aagggccttc ctctgcggnt tcaagatgta aagggaaagg aagtgggtgt 60
ttcagttcag attttggccc aataataaca gcagaatgta cgtgttggag ggtgtaactc 120
cttgcataca atctatgcag ttacaagctg gagacactgt aacttttagc cgcatggacc 180
ctgaagcgaa acttataatg ggtttccgga aagcatcaac ctctatgatg caggacagcc 240
aactagctgc tgtttctaac ggtaaccatt caagtgaagc tttgatttct ggtggttttg 300
aaaatgtacc tatgataagt gggtattcga gtctcct 337

<210> 1520
<211> 439
<212> DNA
<213> Eucalyptus grandis

<400> 1520
gagcgcttgg cggcctctga taggagaccg gccaactgct tcgaatgatg caagtgatgg 60
accggtaaca ggacttgcac tgtcaaagtg ccgcacgctc atcggtctgc cagaaactca 120
cggagagaga gagatggcgg agagagagga gaaggggaag tacgacgaga tgatgatgaa 180
gaaggggagc gacggaggga tagcggaggt gaatcccacg ccgaagaagg gggtgacgtc 240
caaggttgtg gactacattg agaagctgat cgtgaagttc atgtacgact cctctctgcc 300
tcaccaatac ctcgccggca acttcgctcc cgtcgccgac gagacccctc ccgtcaccga 360
cctccccgtc gtcggccatc tccctgattg cttgaatgga gaattcgtcc gggtgggccc 420
caatcccaag tttgccccg 439

<210> 1521
<211> 448
<212> DNA
<213> Eucalyptus grandis

<400> 1521
attggattct accggaaatt tgcgcgccgt tgggggtttt ttgatgtcgg aggatggggt 60
cgtcgcagaa gtgcatgaat gtgctgtgcg aggagaaggg gtcgaccgag tggaagagag 120
gttggcccct ccgatctggt caactcgcca ccctctgcga taagtgcggg tctgcatttg 180
aacaggccac gttttgcgaa gttttccact cgaaggactc tggatggagg gagtgcgctt 240
cctgtggcaa gcgcctgcat tgcggatgca ttgcttcgag gatgctgctg gagctgctcg 300
attgtggcgg gatcaactgc gcgacctgtg cgaaaagttc aggacttctg cctatcgcaa 360
gtgatgagag gcctagtgag tttggcatga ttaatgttcg tactggtgaa ctgcaatcta 420
gtaccacaga caaccatttc gatagcga 448

<210> 1522
<211> 439
<212> DNA
<213> Eucalyptus grandis

<400> 1522
cacaacaccc ccatatcagt aaacacttct cgctgctcca gccagcttct gtctcatata 60

aacactagcc ccacctcact cattatccgc ttcgctccta ctcaactgct atcgcgctat 120
cccagcgcag acgtcctccc atgaacttct ccgacaagga agtgcagctc gcgtccgacc 180
acccgaagaa gcccgccggg agaaagaagt tccgggagac ccgccacccc gtgtaccgcg 240
gggtgcgtct gcgcgactcg ggcaagtggg tctgcgaggt tcgcgagccc aaaaagaagt 300
cgaggatctg gctcggcacc ttccctactg tggagatggc agcgagggcg catgacgtgg 360
cagcgctcgc gctgagaggc cagtctgcct gcctcaactt cgcagactct gcgtggcggc 420
tgcccaagcc ggcatcgac 439

<210> 1523
<211> 361
<212> DNA
<213> Eucalyptus grandis

<400> 1523
gcctggtgaa cgaagttttc gagagtggcc aactttccca tcgcaatagc catttggccc 60
atgtattctg cgacgttgcc tgaaccagta ggactcagtg tggtcgaaga aagcgtgtcc 120
acgagagatt gctgcagagc ttccattccc tgagataaag catcttcagc ctgttgtgaa 180
gattgctgca gattacatat gcccatcaac tgttgatccg tcaaaggctc caggtggttc 240
cctagtatct tgagaagttc agatgaacgg aaaccgccca accacatgaa acacctctcg 300
gcgggcgtct tccacatgcc agagagtatg tggaacacat cggccttcgc acctatgttc 360
t 361

<210> 1524
<211> 422
<212> DNA
<213> Eucalyptus grandis

<400> 1524
ccgactcagc aaagccaaag aaagaaacca gaaacagcag accagaccat tccattccat 60
tccatttcgc attctctact acagactcgc agagatggtg aagagagaca gagaggacgc 120
ggaggtcgaa gccctggccg tggccaactg cttgatgctc ctcccccgag tcggcgagtg 180
cgccgactcg aaccgcgaat cgcggtctac agagcggatg ttcgcgtgca agacgtgcaa 240
ccgcgagttc tcctcattcc aggcgctcgg agggcataga accagccaca agaagcagaa 300
gctgatcccc ggcggcctct tccacctcgg ctgcaccgcg gattcctcgc cagccaagcc 360
gaagaggcac gagtgctcga tatgcggcct cgagttcccg atgggccaag cccttggcgg 420
tc 422

<210> 1525
<211> 443
<212> DNA
<213> Eucalyptus grandis

<400> 1525
ctcgatgatc gacacttgca cgctagtctc ggatggcgtg ggctggagag gaggtggcgg 60
cgactccacg gccttgggct tggccccgct gccgccctcg acgatcctca ttttcctctt 120
gtcagaccca gacccgggca agcttgctcg ggaggaccgt tctactgacg aggccgcgct 180
tcgtagatcc ttcaaactag tcgtcctctg caactctcct tgttttgtcc tgtggtcagc 240
ctccatttgt cgattcctcg cctcgagatc ttggatcttc ttcctaagtt gcttcacata 300
ttctatggta tcccccaata tggaggcctt atccattttg gtcacgaacg gcaccagtga 360
cctcagtata atgaacctct cgttgagctt ctcgcggcgg cggcgctccg ccaggacatg 420
gttggcgctg agctcgtcct gcg 443

<210> 1526
<211> 379
<212> DNA
<213> Eucalyptus grandis

<400> 1526
gtcctccaca gttgcggcag attgtaaaag ttcccacgca ctcgttgctc atatgaccca 60
cctgctgaca gttcctacac acgacatccc tgaaaccgcc accgccaccg ccgccaccgc 120
cgccaccgcc gctgcgccca acaccaccac ctcgctctcc catgacattg cctttaggac 180
actgcctagc cacgtgccca gatatgttgc acatattgca gactggctca ttcgggcaat 240
cacgtgccag gtggccagtt ttcctacagt tgttgcatgc cttctcattc gtacagtcag 300
ctgcaatgtg cccttgcttg tagcagttgt tgcatagcct caagtcacca ggaggagcgc 360
tgcattctct agcaatatg 379

<210> 1527
<211> 419
<212> DNA
<213> Eucalyptus grandis

<400> 1527
gttacattga ttgacatgtg aacccgtctt ttcttttttt ttcagtagtg gcaatccacc 60
aaggcgggcg aggctagtat gatgggctgt tgacttgtgg cgaattggaa cttcgagttc 120
tcccggcggc ggtgcgcttg gtggtggtga tcctcctccg tcggggccgg caggttcagg 180
tccaaggaga ggatgttgcg ggacttctcg gtggtgatgg ccgcagcagc cggcgggttg 240
gtggggctcg tcgcgtcggc gctggtggcc gtcggcggcg gggcggacct gtgccgcctc 300
atgtggccgc ccaaggcctg acccgacgcg aactcggacc cacatatgtt gcactcgtgg 360
atcttgggct tgctcgcttg atggagcccc ttgtggctgg ccacgtgggc ggagaggggg 419

<210> 1528
<211> 381
<212> DNA
<213> Eucalyptus grandis

<400> 1528
cttgcctcac gattgaagaa gaaaagagca gcagaagaag cgtttccgtt gctatggtca 60
ttattttgag caatcgcaga acgggcaact gagcggttca tcttttcggt ggccctataa 120
acaactcggt ctcaacatcc atagactccg cgcggatttc ttcacgaggc ggttcgctgg 180
agaccggggt caatcctttg ccgcattcaa tctcttgaag tagctttctc ttttcttcca 240
gtagtttccg ctcctctgct tttagccgct caatatgctc cctaattaaa tggttctttc 300
ttgccctgat cttggttaga cttctttcca actggttttc tgtttgttgg agctcctcga 360
ccgaacagga atccagaccc t 381

<210> 1529
<211> 524
<212> DNA
<213> Eucalyptus grandis

<400> 1529
ctctcagcat aatctctctc tctctctctc tctctctctc tctcctgcgc tctgcgcagg 60
agcttattct tttattcttt tcttcttctt cttttctgtt gggtagattt gtaaattagt 120
agggcgaaat ccggaccttc ttcttcttgc tccccttttct tcctgcagct cgaatcgtat 180
cgtttcgtcc gtccgtccat ccgatcgaca tggccgcagt cttccagctc gacggcgacc 240
gcgctgccga cgccctcccc gattcgccgg ttgtcgatca ggagaaaatg ccgatcgcga 300
cgagccatga ttatgctaat catggggggg tttgtgcgat atgcttggag aagattgtgc 360
tccaagaaac tgccctcgta aaaggttgcg agcacgccta ctgtgtgata tgcattctcc 420
gctgggcctc atgtaaggag agaccaacct gccctcagtg taaacatcct ttcgacttcc 480
tcaacgttca tcgctcgctc gatggcagca tccgtgatac atgt 524

<210> 1530
<211> 185
<212> DNA
<213> Eucalyptus grandis

<400> 1530
gaactggctg tctgggatca acatagggaa gcgagtgcac atgtttatca aaaggaccca 60
gaggtccaga tgtagtccta acagatnggc tgtcaatact agcacagggg atttcaccag 120
acatcggctg cccattggtt agaagaggga ttggatgtcg agattcatgt ctagaagaag 180
aagaa 185

<210> 1531
<211> 385
<212> DNA
<213> Eucalyptus grandis

<400> 1531
tcagctagcc gctccacccg cttcttcacc cggcagttgt cctgcgtgca gcggtagtag 60
cttctgggat gttgagtgtt cttgaccacc ttctgaccgt acttcctcca tttgtaccca 120
tcgtccagga catccacatc gctcatggtc ttgaagcaaa acctcggctc cctcaccttc 180
ctcctcccct ttatcttctt catcttcaag gctgaaaccc ccatgctctg gtggtggtgg 240
tgatcacgat aatgatcgcc atgatctcca ccgccggatg aggatctcat gaccaagctg 300
ctctggtcac tcaactcacc ccatgcccag agattcgggg ttgatctttg caaagacaga 360
agctgggggc ctcccaagag ttcag 385

<210> 1532
<211> 153
<212> DNA
<213> Eucalyptus grandis

<400> 1532
tcggggtcaa tccatctggt gcagaacata aacgcctgct ttggtcccag gcattttctg 60
cacaggtcca cctaggagga agaagaacat ctactggtaa ccttctccat ttaccacagc 120
tatcacattg aacccattgc tcttgttccc ccc 153

<210> 1533
<211> 417
<212> DNA
<213> Eucalyptus grandis

<400> 1533
cagaaagtga ctcgccctag tgtaggagta gggagaggct tggatgcaca ttccatttcg 60
cctccttgaa gccctccaac ggcgcagata tttccttgct tttttaggca aaatgttgaa 120
aaactggtga taataaaaag aagccctgtt tagctataaa gggaagcccc atcctttctc 180
ctccctttct ctttcttacc tgtccccccc tcccctctcc tggctctcgc tctctctctc 240
tctctcagtt ctttctcgga cgggtgtctg tgcgtggctt ttgatcggtc atcacctgag 300
gccgcgtctg caagcaagtg aagaaggagg acaaggaata tggcgagaga gaagatcaag 360
atcaagaaga tagacaatgt gacggcgagg caggtgacgt ttctaagaag gagacga 417

<210> 1534
<211> 574
<212> DNA
<213> Eucalyptus grandis

<400> 1534
gtccttgtga cgacaaagtt ccgggaaata cttcgccaat cgcctttccc atatttatct 60
aggcctagaa gaaataacct gtgttcttcc tcggtccaag caatcccctt ccttctctcc 120
tgatccgacc tcgagccttt ccctccctgg tttgactcgc cgctaccgcc gccgcccttc 180
ttcctgctct cctcctcccc taagttactg gcggagccat ccgagcaagc cgaactgtag 240
gacggcagag gcacgcggcc agcctctatc ctattgacat cttccaccag gtcctcgtag 300
tggagcttaa tctcctctag ggttttgccg ggcacgtcgg acgctacctt ctcccaccaa 360

tccggggaaa cctcgaagtg ggtagccagg gcattctcga acgccttgtc ctgttcctta 420
ctccacgagg aacaactagg gctcactgct tcatcgacag tcatcaaagc aaaacccaca 480
caccccttcca actccgaacg acttcacgcg actcagcagc gcgaccaaat gaaactcgac 540
ggcaaaatct acggagctat cgaaccaacc ccaa 574

<210> 1535
<211> 497
<212> DNA
<213> Eucalyptus grandis

<400> 1535
accgacctcc tctctccacg cggccactgt cccgtcgcgc gaattcgccc cgccgtcgta 60
ggagaccgca tcctccgccg ccgcggcgat ggccccagct tcattccctg cgctagcaac 120
gcatttcaat ggaagtatgc tcaatgatac taactcatct ggtgaaagtc acacacgtaa 180
tggaaggcca cgaggagatg ccaggggaag gaatcaatta cttcctcgtt actggcccag 240
gataacagat caagagctac aacaaatctc aggagactcg aactctgtaa tcactcctct 300
gtttgagaaa atgttgagtg ctagtgatgc aggtaaaatt ggacgtttag tgctgccaag 360
aaaatgtgcc gaggcctatt ttccgtctat ttctcagctt gaaggattgc cactcaaagt 420
tcangatgcc aaaggctcgg agtggatatt caatttcgat tctggccaat aataatagta 480
gaatgtatgt tctggaa 497

<210> 1536
<211> 454
<212> DNA
<213> Eucalyptus grandis

<400> 1536
gttcttcctc gtctccatga cgcatccttc ggcaacgacg gcagcttgcc cggccaggcc 60
ctgtacgggt cgaccccgct ttgggtgtcg ggcggggacc gcctcgccga ctgcggctgc 120
gagagggcga acaggcgcgg attttcgggc tcaacaccat ggtctgcgtc cccgtgatcg 180
gcggggtcgt cgaattgggc tccacggagc cgatctacca tagcccagat ctgctgaaca 240
aggtcaggaa tttgttcaat ttcactggtg ggatggaatt agggtttggt gggaatggta 300
acgatcaggg cgagagcgat cctttcttcg ctctggctca atgatccggc gggcacggtc 360
gaggtcaaag acagcgccgt cgccgggcgg ccgccgtcaa gggttcttcg aattataacg 420
gtagcaatca tgggtctaaa tcgattcaac tcga 454

<210> 1537
<211> 266
<212> DNA
<213> Pinus radiata

<400> 1537
catcaatggc atcgcttttg ttcccgcagg ctatgctgca ctgccctgca caatacacag 60
aagcaatgca ccaaatctgc agccacaggt aagggcggga tcaagaggat tcgtaggcaa 120
caggaggctg ccccttcgcc gccagaggag gcaactttga atcagcaaac tccaccgtac 180
agaggcgtgc gtcgtcgcaa ctgggggaaa tgggtgtccg aaattcgaga accgaaaaag 240
aaaacccgaa tctggctcgg ctcctt 266

<210> 1538
<211> 426
<212> DNA
<213> Pinus radiata

<400> 1538
gcatattcta tatgaagttt gtccttattt caaatttggt tatgtagctg caaatggtgc 60
catcgcggaa gcatttaaag acaaagacag ggtgcacatt attgattttc agatcgctca 120
aggtagccag tgggtaacat taattcaagc atttgcagca agacaaggtg gttcgcctca 180

tgttcgcatc acaggtgtgg atgatcctca atcagagtat gctcgaggtc aaggattaaa 240
tttagttggc gaaagattat caaagcttgc agaaagctac caagttcctt tcgaatttca 300
tggtttgtct gtttttgggt ctgacgttca tgctgagatg cttaagattc ggcctgggga 360
agctttggct gtaaattttc ctttgcagct ccatcatatg cctgatgaga gtgtgaatac 420
aagtaa 426

<210> 1539
<211> 447
<212> DNA
<213> Pinus radiata

<400> 1539
cgacggcgtg gtttttacac agtcttcgga ctcttcttgc tcggagtctt cccaaccacg 60
gccggcaaag aaatacaaaa aaacccatag caagaaagcc caagacggct ctcagccacg 120
aaggtgcagc cattgtcttg tacagaagac tcctcagtgg agagccggac ccttgggacc 180
gaagacgctc tgtaatgctt gtggtgttag gttcaaatcc ggcagactcg taccagagta 240
ccgcccggca ataagcccca ctttttttga gcgaggttca ctccaatagc cacagaaaaa 300
tcctcgaaat gagacgccaa aaagaagaag aacaacagag gccagagcta acgtcccaga 360
cgtgttcaag cggcgccaac gagtcatttt cagacaattc tttaccgtct gaagagtccc 420
ttctagttta acccacaggc gtgaaat 447

<210> 1540
<211> 382
<212> DNA
<213> Pinus radiata

<400> 1540
gaggaaatgg gtgtcggaag ttcgaattcc caattccagt ggcagaattt ggttgggctc 60
ctacgacacc ccggaaaaag ctgcccgtgc atatgacttt gccgtgtatt gcctcagagg 120
gtccaaggcc aagttcaatt ttccccactc tccgccgaaa ttttcctgcg cttcatttct 180
atcaccgcag caaattcaaa ccgcggcggc caagttcgcc gcagaagaat tccggcttct 240
ttccgaaaat ggcgcggcat cctcatcata tggtttggaa aaggnntatg acattaatag 300
cgaacagatt acttggaagc agggtgcgac atttggggat tcagtagcat ttgaaagtat 360
ggagaatggc ggatctttca ac 382

<210> 1541
<211> 368
<212> DNA
<213> Pinus radiata

<400> 1541
ggtgattgga gagggaatag cacggaattt tgtcataaca cgaacaccta caccaggtag 60
ccagccatgc cccagaaata ttttattcga cagagcaata tgactagaaa gaagagacgt 120
tccagtctgt ttgacatgac gccggtgagt tttttcttcc tgtcttaaat tcttggtgtg 180
gtgggcatgg aagggattca ggaggcgtct tgggcaaaga tcccaaaaat tggatttgca 240
atcaatcatg attcataatt gttctgaaaa ttatgctaag aactaatctc atctttcaaa 300
cctcaaatgg tattcttttg tttgaagttg nttctaagtt tctttaatgt ctattcataa 360
tttcattt 368

<210> 1542
<211> 370
<212> DNA
<213> Pinus radiata

<400> 1542
caagcctaga gtatgatttg gcctaccagg ccttctatca gcttcttcct tatcacaaat 60
tcttgcactt cacaagcaac caggcaatac aagaagcggt ggacaatgct tctaatattc 120

atatcattga cctcgagatc agacaaggcc ttcagtggcc cagcttcata caatcgctag 180
cccacaggcc tggaggacct ccgaagctgc tcaagatcac agcgatagga caagacgaga 240
agaggctcaa acagacaggt aggcgtttgc ttgagtttgc agaatcaatg gagattgcat 300
ttgcttttca cccggttgtt gtggacttgg agaacctgga tgaatcggcc ctcaatataa 360
aagcccacga 370

<210> 1543
<211> 404
<212> DNA
<213> Pinus radiata

<400> 1543
gcggagtatg ttcaaagcgg gtggtgattt agccgagggc gaagaggagg acgaagaagg 60
gcttcgtaac aaacgtggcg attgatccta ccttagcctg aaaatgctgt caggaggcta 120
cgcaaccaga tccgacacta ctactgtcaa caacggatcc gctaatggcc caataggaag 180
tgctccccca agaattaact cgatacaaaa taataatcca ggagctgtca ggcctggctg 240
gggaaccatg ccccttcaca tgaatcctta tcatccccaa tcaatgcctc ttccgccccc 300
caatggtatg cagggtcagc ttgtgtgcag tggatgtaga actcttcttg tttatccgca 360
aggtgcacca aatgtttgct gtgcagtatg caacacagtc actc 404

<210> 1544
<211> 339
<212> DNA
<213> Pinus radiata

<400> 1544
tatgtctctg catttcagcc agtccatggt ttcaagttag ttagtccaat aaagcagaga 60
tgggtcgtgc tccatgctgc acaaaagttg gtctcaacaa gggagcatgg tctgccgaag 120
aggatagtct tctgggaaga tatattcaaa ctcatggtga aggcaattgg aggtctctgc 180
ccaagaaagc agggctgcga agatgtggaa agagctgcag attgcgttgg ctaaactatc 240
ttcggccatg tatcaagcgg ggaaatatta caacagatga agaagaactt attatcagaa 300
tgcatgctct cttgggcaac cgatggtcga taatagcag 339

<210> 1545
<211> 395
<212> DNA
<213> Pinus radiata

<400> 1545
ccggtccggg cggtggagag catcagcctt ggagttacag accaggaaaa tacaagatgg 60
gtagatctcc ttgctgctcc aaagaggggc tcaaccgcgg ggcctggacc aaaagggagg 120
atatgattct ctccgaatac gttcgaattc atggcgatgg tggatggaga aatcttccgg 180
aaaaagcagg tcttaagaga tgtggaaaga gttgcagact acgctggttg aactatcttc 240
gtcccgatat taaacgcgga aacatttgcc ccgccgagga ggagcttatt attcggctgc 300
atcgccttct tggcaatcgg tggtcactga tagcaggacg actgcctggt cgaacagaca 360
acgaaatcaa gaactactgg aacactcatc tgagc 395

<210> 1546
<211> 390
<212> DNA
<213> Pinus radiata

<400> 1546
gttctgtcaa gacccagcaa gaattttgtt ccgggtttga aggtgggaga agtgaggtga 60
ttcctccttt ggaagatgtg gaagggtcca cacccacgat tgggggagg aagagaaaaa 120
atgtttacag aggtatcaga cagcgtccat ggggaaaatg ggctgcggag attcgagatc 180
ccagtaaggg ggttagggtt tggcttggaa cgttcaacac ggcagaggag gccgccaagg 240

cctatgatgc agcggctaaa aggatccgag gtaagaaagc taagctaaat tttgctgata 300
actcgtgttc tgttaaaaat gacactagca agaaattgtc aggaaaagaa aggaaagttg 360
tgctcaaaac accctgcttt tgttgttaga 390

<210> 1547
<211> 447
<212> DNA
<213> Pinus radiata

<400> 1547
agggtccccg cgaaatgact gaagaggagc gggagacgaa gaaggccgcc agtgtggccg 60
ccacggctgc cgaccaggag ctcaggaaga aagtgctgcg ggatctgcac gcgctgatta 120
atcccaacgc gactggagag gcggatccgg cggagtttcc aggggatgat gctactgtag 180
atggggaagt cacggacgcc gagtggtttt acttggtgtc catgatgaag tcatttggaa 240
atggcttggg ggtgccggga caggcatttt gcggtggcat gcctatttgg atcattgggt 300
cagaaaagct tcagagctac aactgtgagc gggctcgtca ggctcagcaa ttcggcattc 360
aaaccatggt atgtattcca acacctaatg gagttgttga gttgggttcc acggatttaa 420
atccgcagaa ctgggatttg atacaga 447

<210> 1548
<211> 357
<212> DNA
<213> Pinus radiata

<400> 1548
cagaaatctt gtgatccttg tgattataat caaaggtcag ccttgcaagc aaccgtgaag 60
ctgtgttcag ttcagagctt ctcttgcccg atggattcgg agcttatgat ggatgccatg 120
cggaaccttt cgaataatgg attcgctact tcttccatgg aaatgttagc ggttatgccg 180
gatcagatta ctgtcgaagc accaccggat tcgtcgacgt tgttcgcggc accacgcaat 240
ggccgattgg caggggagcg gcgggcaagg ccgcatccga gtcaagtgct caaatgccct 300
cgctgcgatt cgctaaacac aaagttctgc tactacaaca actacaatct ctcgcag 357

<210> 1549
<211> 395
<212> DNA
<213> Pinus radiata

<400> 1549
gagcactcaa aatggggaag acgaagatgg agattaaacg cattcaaaac cctagccgcc 60
gccaggttac tttctcgaaa cgcaagaacg gattgctaaa aaaggcattc gagctttctg 120
ttctctgcga tgctgaagtc gccctgatca ttttctcgga aactggcaag atctgcgagt 180
ttgcaagcca cgacgacatg gcaacaatac tggaaaaata tcgaatatac acggaaacag 240
atggaaacat ggagtcgtcg tcggtccaaa gcgtgaaggt ttgactagaa tgagaatttg 300
aagtttaacc cctgcaaata ttatattgaa gggaaatcat ggtccaaaat caagtcgcca 360
cccaagttaa agtgcaatgt aatcacttta gcttg 395

<210> 1550
<211> 634
<212> DNA
<213> Pinus radiata

<400> 1550
gtccgctcga ggtacgcaaa gcacctacgc agcggcattc gaactctcta cccatacgtc 60
agatttcaca gtgacccttg aatacaggta agcgtaagga tgaattttga caatggagga 120
tcacggaggg gacgacgcat tcagagtgat gtagtaggga gacgcacatt tcgtcgcagc 180
gagccttata gactataccc taatgatagg aatggatatg gtcccaggtc ttccaggcct 240
attgagcttt gtaacaactg caagcgaaca gggcactatg cacgagagtg tccaaatgct 300

tctgtatgca acaactgtgg agtttcaggg cacattgcat cgaagtgtcc aaaagagcaa 360
ttatgcagga attgcaagaa gcctggtcat cttgcagctg attgccgcaa tgagcctgtc 420
tgtaacatgt gtggtaaaac aggtcacatg gcaaaggaat gttctgctca tgagctagga 480
cttccaaaat cagcactctg caagaagtgc tatttgcctg ggcatattat ggcagactgt 540
cctaatgata aggcctgcaa taattgtcgc cagactggcc acttggctcg agattgtatg 600
aatagcccgg tttgcaatgg ctgtggtgaa cctg 634

<210> 1551
<211> 612
<212> DNA
<213> Pinus radiata

<400> 1551
agaacatggc caagcacact gtctgcgcct cttttctcaa cgaaggagac ttcatttgcc 60
ctccttacga agatggaatt ggtctagaat ggctgtcgga cttcgtggag gattcctttg 120
cagctacagg aagttcgaat tctggttcct tggctgactt gtctaaggac aaaatcgacg 180
acaacaggga gaagaagaag cagaacccaa ccgatgaagc gataatccct gaaataccgc 240
ctataaagga gactcccagg tcacagaggg cggtgcccgg gcgggctcgc agcaagcggc 300
gcagaagctc aggagcccca attcgcggtt ggtctacttc tgaagattac gcattgcaga 360
atgagggcgg catgaaaact gtaacaggag cggacgctat aaatcattac cagtcctcgg 420
cgccccagca gcagccaagg cgctgcactc attgtctcag ccagcgaacc ccgcagtggc 480
gattgggccc gttgggtccc aagaccctgt gcaatgcctg cggtgtgagg ttcaagtctg 540
gcaggctctt ccccgaatac aggcctgcca agagccccac tttcattcga tacattcatt 600
caaattccca ta 612

<210> 1552
<211> 562
<212> DNA
<213> Pinus radiata

<400> 1552
gtcatccata ttttcttttt cagtctgcaa tacaaattgt tattcgagat acgattgatc 60
atgcttgaag gctatgccta tgcttgcgga aacataccgt gacagctttg agacgacttc 120
gggaggtagc agcgtggatc tggtaggaat ggctctacca ggtttggccc ctaatttgtc 180
ttctgcttca gtttcagctt cagcgtcgga agattctgcc aagaaaataa ggaaacccta 240
taccatcacc aagtccagag agagctggtc tgagcaagag cacgataaat ttctcgaagc 300
ccttcaacta tttgatcgtg attggaaaaa gattgaagct tttgtaggat caaagactgt 360
catacagatt cggagtcatg cacaaaagta cttcttgaag gtccaaaaga atggcacaag 420
agaacatgta ccacctcctc gtccaaaacg caaagcatct catccatacc cacagaaggc 480
ctcaaaaaat gttcctgtgt cacagcaagt atcaactgct tttccaactg ctgctactca 540
actagattct ggatattatc ca 562

<210> 1553
<211> 392
<212> DNA
<213> Pinus radiata

<400> 1553
caacaatgtt ccatattgag acctactttt gtccgcattg cctccactcc agaacgttgt 60
atttctttta atgcattgcg cctcaatatc ttctcttttg attgcacagt cgccaaaccc 120
atgcttctat accttgagac taatgcacga gaaagagcaa catctctctc aaccgttggg 180
cgtggcctct gacggtaata acgaagaaat tcacgagaac caagcatctt gcatgttgtt 240
ccattttcag actttctttg gattaccagt tcagcccctc caaagccaag ttcaatattg 300
acattgagat tttcttctgt gggcactatt tgcatcccac tttcatccgt gtaactgctg 360
ctgtagtcat aaaagtcggc taaatcacta tc 392

<210> 1554

<211> 570
<212> DNA
<213> Pinus radiata

<400> 1554
tcgttctcaa gcaccaggga gagcatggaa aggcgagatc agagtccggt tgcagctcgc 60
caccccatga gaaaacacta cagaggagtt cggcagaggc aatggggcaa atgggtagcc 120
gagattcgcc tccctcagaa tcgaacccgg ctctggctcg gcacctttga caccgcagaa 180
gcagcagctc tagcatatga ccgagctgct tacagatggc ggggtgagtg cgctcggctt 240
aatttccccc atttgttctc aaaaaagtat cagaattcct ctcccagctc caccaatggc 300
aggattcctc gcctttcttg tgaaaaatct gatcagaaat atgcatataa tggtgaccca 360
gttcatacga atgtatataa gggtccccca attcggataa ctgcatacaa cggcgaccca 420
gttcctatag atgtatatag gagtgaccca gttcgggtaa gtgcatatac tggtgaccca 480
gttcggataa gtgcttatag tggtgatcca gttggcaata ccgttacttt agcggaatcc 540
gagcttgaaa gctcctgcag ccatgaatcc 570

<210> 1555
<211> 392
<212> DNA
<213> Pinus radiata

<400> 1555
cttagcgacg gttcccaatc cctagtccct gcactttact cgtctctctg tgaagatgag 60
gagattgcgc tgtgagaagg gtaatacaaa caaagggggcg tggacccaac aagaagatgc 120
ccgactcatc gcctacattc gagcccacgg cgaaggcggc tggcattccc ttcccagggc 180
cgcaggtctg ctgcgatgtg ggaagagttg caggctgcga tggataaatt acctgcgtcc 240
taatctgaag cgtggaaact tctctgaaga agaggacgat ctcataatca aactccacaa 300
cctcttgggc gataagtggt ctcttatcgc gggtcgattg ccgggccgga tggaagacca 360
gataaagaac tattgggata cccactttaa ga 392

<210> 1556
<211> 364
<212> DNA
<213> Pinus radiata

<400> 1556
ccttaccgag gggaagcaac gaggtgtttc tcttttccca caagaagata tcaagcaaat 60
agttacacac caagaaaatc cacaatgggt agatctcctt gctgcgcaaa ggaagggctc 120
aaccgcgggg cctggacgaa aacggaggat attattctct ccgaatacat tcgaattcat 180
ggcgatggtg ggtggagaag tctccccaaa aaagcagggc ttaagcggtg tggaaagagt 240
tgtagattac gttggttaaa ctatcttcgt cccgacatta aacgcggaga catttcccca 300
gctgaggagg agctgattat tcggctgcac cgccttcttg gtaatcggtg gtcgctgata 360
gcag 364

<210> 1557
<211> 355
<212> DNA
<213> Pinus radiata

<400> 1557
ggagcaccca aaatggggaa gacgaagatg gagatgaaac acattcaaaa ccctagccgc 60
cgccaagtta ctttctcgaa acgcaagaac ggattgctaa aaaaggcatt cgagctttct 120
gttctctgcg atgctgaagt cgccccttatc attttctcgg aaactggcaa gatcagcgag 180
tttgcaagcc acaacgacat ggcaacaata ctggaaaaat atcgcatata cacgcaaaca 240
gaaacagatg gaaacatggg ggcttcgtcg gtccaaagcg tgaaggttgg tgaatcacaa 300
ttgaaagcgt tgcacgagag gatggacaat ttgaaaaaaa aggaacgaaa catgg 355

<210> 1558
<211> 478
<212> DNA
<213> Pinus radiata

<400> 1558
aaaaagctgt aaaacggtat atatagagcg ctctccagtc taacatcttg gattgattgt 60
tttctgttag aaattcccat catccctctg tgtcttcctc cttttgaatc cagagactgt 120
ttttatggtg gctgtaaatg ctgaaataat gcccaaattc gaagggaagt ctgcgaaatc 180
cctggattca acattcaagc tgttcggcag aacgattgct gtgaaaaatc cctgtgatag 240
cagcagcaat ggtattcatg tcgatgggat tccagctgaa gcagtgaatt cagcagtccc 300
caaggcttct gaaacgcatc atcatgatga gaaacagaag cagaatgagg attcagaaaa 360
ggtgggtaaa aagcccacaa agcttgtgcc ctgccctcgc tgcgagagca tggataccaa 420
attttgctat ttcaataact ataatgtcaa ccagcctcgg cattattgca ggagatgc 478

<210> 1559
<211> 389
<212> DNA
<213> Pinus radiata

<400> 1559
agaaggttgg aatggcttag tccgctcatt tgatggcgaa cagatctttg tggggaggtt 60
cagactttga ttatgagaac gaagccgata cgaggaaggg tccatggact gtggaagagg 120
acatgcagct tggtattgta aatttgcacg gagaaggacg ctggaacttt ctcgccagag 180
catctggcct ccagagaact ggtaagagct gccggctaag gtgggttaac tatctccggc 240
ctgatctcaa gcggagcaag atcactcctg aagaagaacg tttgattatt gaactccatc 300
gccgttgggg aaataggtgg tctcgtattg cacaaagttt accgggaagg acggacaatg 360
aaatcaagaa tttctggaga actcgtatg 389

<210> 1560
<211> 354
<212> DNA
<213> Pinus radiata

<400> 1560
agatgcctcg ggtagcagtt tacaagagcc tgaggagaat gatgaagaac ttgctcaagc 60
tcttgaagca agtttgaaaa tgggttcaca gcaaaatcct cccagtcagc ctccatcata 120
ctcttaccct agaggataca ggatctgtgc tggttgcaat catgagatag gctatgggcg 180
gtttttaagt tgtatgggga ccttatggca tccagattgt ttttgttgtg ttgcatgtag 240
tctacccata cgtgaacacg agttttccat gtcagggaat gatccatacc acaaatcctg 300
ttacaaggaa ctccaccatc caaaatgtga cgtttgccac cagtttatcc ctac 354

<210> 1561
<211> 248
<212> DNA
<213> Pinus radiata

<400> 1561
gccaggtgag gcattggcag tcaattttgc attccagctg catcacatgc ctgatgagag 60
tgtctctacc aggaacccca gggatcaact tttgagaatg gtaaaaggcc tgagtcctaa 120
agttgtaaca gttgtggaaa gggaaatgaa cactaatact gctcctttcc tccctcggtt 180
catggaggca ctgaattact actcagctgt gtttgaatcc ttggatgtta gcctcgaaag 240
ggaaaacc 248

<210> 1562
<211> 346
<212> DNA

<213> Pinus radiata

<400> 1562
tctgtaagtg cttgagggct tcttgtatcg atgaggccat taacgatggg aagatctttt 60
agttgttgga gctgttcaaa agataatggc cacgagcgtc ttaatcgtgg atcttggagt 120
gctgaggagg atacaatttt gagtgaacat atcaaaactc atggagttgg tcgatggaca 180
tctcttccca agaaagcagg tctaaaacga tctgggaaga gttgcagatt acgttggttt 240
aactatcttc gttcagatat caagcatgga aacatttctc cggaagaaga ggaactcctc 300
atcagattac atcgtctcct tggcaatcgt tggtcgttga tagcag 346

<210> 1563
<211> 354
<212> DNA
<213> Pinus radiata

<400> 1563
gtttggggat atatcagaat gcaggacact gctgcttcca catctacaca gcatcagtca 60
acaagtgaaa aatcttcaag ttcagcagct ccagccccat ttagacaagc caaagatgca 120
attgagagcg atgatgatat caggagggtt cctgaaatgg gaggaatgca agcaggtcca 180
tctacatgtg tgcctatgag gttagacaat ccccaaccta gcacaggcgt tgttgcccac 240
aggaagagag ggagagcccc tgcagacaag gaacacaagc gtctcaaaag attgcttagg 300
aacagagtat ctgcccaaca ggcaagagaa agaaagaaag catacttaaa tgat 354

<210> 1564
<211> 324
<212> DNA
<213> Pinus radiata

<400> 1564
tagctgccga gtgtacgaat gagaaggcat gcaacaactg tcgcaagacc gggcatcttg 60
ctcgtgactg caccaacaac ccagtttgta atttgtgcaa tatatctggt catgtggcca 120
gggagtgccc caaggctcgc attttggatg gtaatagggg tggaagattt attgacgata 180
ggcgtggaag atttaatgac ataatctgta ggacatgcaa cgagccaggg cataccagta 240
gggagtgcac tggaattctc atctgccaca acttgtggtg gccgtggaca tgttgcatac 300
gaatgccccc tctggtcgtg tgat 324

<210> 1565
<211> 421
<212> DNA
<213> Pinus radiata

<400> 1565
aacggaaaca ggaccggact ctggctgctg ccctccctca ttaaccattc ctgtctgccg 60
aactcgaggt ggctgttagt gggaaatgcc atttttatac atgcctccaa ggccatcggg 120
agtggagaag agatcactat tccttatttt gatgttctgg ctcccttgtt acggcgccaa 180
gctgactgta agaactgggg tttcaagtgc aagtgtaaga gatgcattct ggagcactca 240
ttcaggaaat tcctagaacc tataattgcc ctaaagtttg agcaattgga tgaccaagca 300
aaagaattgc ttgctggatt ggatcatcgg gaaagtgcag aaatgagtca ccgggaaaat 360
gcagaatttg caatgtttgt tccagaggca gaggagatca tccggagttc ccatgtgttg 420
a 421

<210> 1566
<211> 390
<212> DNA
<213> Pinus radiata

<400> 1566

```
cttaattccg caacacaatg cgttttcatt ggagttgaga ttttcagatc ggcaattgcc      60
aagctcaacg cccccaaatt gtgattcgat gtttccctcc cactacacag cgttggcatt     120
gcgtcgccaa atgtggagaa accccagaga gtccggacag agccattccc agcctccaga     180
gaaagataga ggaaaaactt tcggccaatt taagggaatc cgaatgcgaa aatggggaaa     240
gtgggtgtcc gaaattcgga tgccgagatc gaaggagagg atctggctag gatcctataa     300
aactgtcgag caagccgccc gtgcttacga tgccgcactc tattgcctca gaggaccaaa     360
cgccaaattc aatttcccca attccgtgcc                                      390
```

<210> 1567
<211> 353
<212> DNA
<213> Pinus radiata

<400> 1567

```
gtctagggga aaagctttga aattatttgg gtttgagttt agagggtcag aaggtggatc      60
atttgaaggg actaatggtt ctgatcagcc acaagatggg actaatatat taactgcagg     120
tgaagcatcc actgagccag tggaggaaga actagtgatt gaggccaaaa atggagattc     180
agggaaatta gaagatgtgg gtagtccagt agaggctgga gaaagtggta gcactagcaa     240
ttgcctggga tcatctgctc aagaaaatcg gaaatatgaa tgccaatact gttgcagaga     300
gtttgcaaat tcgcaggctc tcgggggcca tcaaaatgcg cacaaaaaag aga            353
```

<210> 1568
<211> 436
<212> DNA
<213> Pinus radiata

<400> 1568

```
agtattgaaa ttcccctgtt ttgatctgat agctatggat ctgatggagt cttttgaggc      60
aaaggggaag ggagagaaga ggagaacggt gaggggaaaa acccagttga agaggattga     120
gaacgggacc agcaggcagg ttactttttg taagcgcagg aacggtctgc tgaagaaagc     180
ttacgagctc tcggtgcttt gtgatgccga agtggcactt attgttttct ctccaagagg     240
gaagcgctat gagttcgcta atcccagcat gcagaaaatg ttggcacggt acgaaaattt     300
ttcagaagga agtaaagcaa cgagtacagc aaaagagcaa gatgtccagg gtttaaaacg     360
acaaattgcg aatatggaag aaagggttga aattcttgaa tccatgcata gaaagatgtt     420
gggggatagc tggcat                                                     436
```

<210> 1569
<211> 349
<212> DNA
<213> Pinus radiata

<400> 1569

```
gttcaatttt ttcacttgca gtggaaatag aagcctgcag gtacctctag gctaccggag      60
ttcaaatccc gcacgatcac actcccttct tttaacattc cgagttcgaa tccccggaaa     120
cttctcgaca tggttaagcc ctcgcaaaaa cagaatatcc atgtcaatgg caagccggaa     180
agccgctcac tgatgtcgcg gcaattcaag ggaatccggc taaggaaatg gggaaaatgg     240
gtgtccgaaa ttcgaatgcc caattgcagg gccaaaattt ggctgggctc ctacgaatcc     300
ccagagaaag ctgcccgcgc ctatgacttt gcagcgtatt gtctgagag                 349
```

<210> 1570
<211> 580
<212> DNA
<213> Pinus radiata

<400> 1570

```
agagagagaa cgtgggagaa aacctgcaaa tggccgtgaa gaacctctga atcatgttga      60
ggctgagcgg caaaggcgtg agaaattgaa ccagaaattt tatgagcttc gtgccgtggt     120
```

tcctaatgta tcgaaaatgg acaaagcttc tctgctcggc gatgctgctg cttatatcaa 180
agatctcttt tccaaacagc aggatttgga gtccgagagg gttgatatgc aggttcaaat 240
tgacactata aagaaggaat tattgatgaa ttctttgaag ttggcagcta aagaagcaaa 300
agatctttca agcattgacc ttaaaggttt tagccagggg aaattccccg gcttgaattc 360
agaagttcgc attgttggcc gagaggcgat aataagaatt cagtgtacta aacataatca 420
tcctgttgcg agactgatga tagcactgca agaacttgat ttggaagttc tccatgcaag 480
tatttctact gtgaaggatt ccttaattat ccagacagtc attgttaaaa tgaccagagg 540
tttgtacacg gaagaccaac ttcacgccct gctttgtaag 580

<210> 1571
<211> 469
<212> DNA
<213> Pinus radiata

<400> 1571
gttgacggag caggcagagc gcattggtcg cgtcaagatt ggcagcaacg gtttgttgct 60
gttggcgacg cggttaaagg tggcagcatt tgacctggaa acacatggga tttttttcag 120
agtggaagaa gaagcagatg atgagattat cgttgaatct gtagatgtta accgggacag 180
ggttttggta gcgtcaaatg acggtaatgc tagggttcgt cgaatgagga cactcgaaaa 240
catatgcacc ttaccgtttg acggtttagg cggagcagat gataacagta gcggtagtaa 300
taacaataac aatagtagaa aaattcttgg gactttgaat acatggctgg catttgtctg 360
cattgacggt gtggtgcacg cttgggacgc tgacagcggc gcacgactct accgtttggt 420
agaacaagtc ggcgatgtgt tcgatttggt atcagacaat gaacacgtg 469

<210> 1572
<211> 337
<212> DNA
<213> Pinus radiata

<400> 1572
gggaggcaga gaaggaacgg aaaaaggagt gaatttttgt gggtttgtgt ttattgggaa 60
gatggggtgt gtgtcgtcca aggtggagaa tgaagaatta gtgaaaagat gcagggacag 120
gaggaggcta atgaagcagg cagtgaattc caggcacaat tttgctgcag cccacattgc 180
ttatttgagg gctctgcaaa acacagggaa tgctctggta caatttgcgg agggggaatc 240
cagtgctatg aatggcaatg ctattgaaga agcggccaca ccaatgccag cgaccccatt 300
aacagcatct catcgccatc ccatgaaatt ccatcct 337

<210> 1573
<211> 341
<212> DNA
<213> Pinus radiata

<400> 1573
gttctatact gtcacggtgt ttcttttaat ggctcgttcc tcctccctca ccatggagaa 60
gaatatgtac tgtagttcta ctattctgga gtatgacact gaggaaggga gtagtttaga 120
ttgggaatgc gacatgtccg aggaagaaga agatcttata atcagaatgt acaaacttat 180
cggcaacaag tggtcgctga ttgccgggcg cattcctgga agaaaagcag aggagattga 240
gaggtactgg gccatgagaa cccaacaatt gtgcggcggc gatgatgcta ttttgacgaa 300
gaaacagcag aaaaccaata tgatatcgat taagtaccgc g 341

<210> 1574
<211> 479
<212> DNA
<213> Pinus radiata

<400> 1574
catatcattc atatgaatat ggatagcagg caatcagggg aagaggaaga ctgcaacgtc 60

actcggccag gaggaggagg aggaatatca ttacatgtta gcagcgtgga atattgccag 120
aagagtgctt gtgttgccca tgatatctct tctgatgaac aagatctgat aaatagactt 180
cacaatcttc tgggcgacag gtgggcactg attgcggggc gccttccatg gagaagaaga 240
gaggagattg agaattactg taaaatgaga tacacagcca ctacctcttc ttcacgctct 300
tgaatctccc tttctctcgc caggttatgg agtgtggacc aactatcgta atcagatagt 360
ttgggttgat tcagattgtt taggtttatc tccacttgaa aatatgtgtg gatatttgtt 420
tgtttgtttt atcaaaacca agtatagaag aaataaaatt tgatcgtttt atcgatttta 479

<210> 1575
<211> 402
<212> DNA
<213> Pinus radiata

<400> 1575
attgatggga tcaccccttg gaggaggact tggtctttcc cctagaatgg gtggagggat 60
tgggaatggc ctcaaggagg attgggggtg ggcttggcgg gtctcggagc tactgcgctt 120
accattggag cagcatctcc cgccaaccag ctttcttctg atggtatggg caacagccat 180
ggagacaact caacagtatc gccaattcct tatgggttgg acgtaagtgt aagaggcagg 240
aaaagaggtg gaccggtgga gaaagtagtt gaaagaaggc agagacgtat gataaagaat 300
agagaatcgg cagcaaggtc gcgagctaga aaacaggcat atacccgttg aattggaagc 360
ttgaagttac cagacctcaa agaagagaac aaggaattgc ga 402

<210> 1576
<211> 355
<212> DNA
<213> Pinus radiata

<400> 1576
cttcagccgc ttggagtcca cttcccagct gctacatccg ttgtcctcca gcgcactgct 60
gccatcgtgg gagaagccgt cgctgctccg cttgcgagcg gcgtctaagc tgctgatttc 120
gtcgtccagg tggacaacga tgccctttc ggggtcccgg cagcgcctcc gtagcgtgga 180
gttccagtgg ttcttgatcg cgttgtcggt gcggccgggg agggctcggg caattgttgc 240
ccatttgttg ccgtgctgcg cgtgggcctg cagaatagca gcatcctcgg acggggtaaa 300
aggtctgtgc tccacctgag ggctcagctg attgcaccac cgtagcctgc acgat 355

<210> 1577
<211> 463
<212> DNA
<213> Pinus radiata

<400> 1577
gtgaaacttg agcaatttaa cttgattctg tggagactga tgctgatgag aaaattgagg 60
acaagggagg aagcttgaaa atgactcgcc accagaaacg caaaattgat gaaatccacg 120
ttgaagaggg tcagggtcat gaggattttg atcctgctag ccttcgagag catgaggagt 180
ttacgaaagt taagaacata gcaaaggtag agcttgggag gtatgagatt gagacgtggt 240
acttttcacc tttccctcct gaatacagcc attgtgagaa gttattcttt tgcgaatttt 300
gtctcaattt catgaagagg aaagaacagc ttcaaagaca tatgaggaag tgtgatctga 360
agcatccacc tggagatgaa atatatcgca atggaaccct ctccatgttt gaggttgatg 420
gaaagaagaa caagatatat gggcagaacc tctgctatct ggc 463

<210> 1578
<211> 343
<212> DNA
<213> Pinus radiata

<400> 1578
gaaacaccaa ggttgggatn tctagaacga agcatacgac aacagcgcgc atttcaccac 60

ttaggattga tggagcagca cccttggcga ccgcagagag gacttcctga acgctctgtn 120
tctgttcttc gtgcatggtt gtttgagcat tttctgcacc cgtatccaac tgatgcagat 180
aagcatatat tggctaagca aactggcctt acaagaagtc aggtatcaaa ttggtttata 240
aatgccaggg ttagactatg gaagcccatg gtggaggaga tgtacatgga agaactcaag 300
gaagaaaaag tggaccaagg tacacacaat tctgaagctg aaa 343

<210> 1579
<211> 530
<212> DNA
<213> Pinus radiata

<400> 1579
cggcaagtgg ggagtgccgg acaatttgta tggagctcag gaagacagtg gtggaagtag 60
tgttaaacag aagaacttga aggatgggga ccaattcacc agtagtgatg aagctgacag 120
tgaggtcaat gaattcaaca ttatgaaaag aagcaattca ggggttggat atgaagataa 180
caaaagaagt gggggggcaag gtgatggcaa tcagtacagg tcacgtcact ctcggagcat 240
ctccatggat agcattatga gtaagatgca taacttcagt gaagacttgg aacaggaacc 300
gtctcaaggt cggaatgtca gacactccca tagcaattcg atggatggaa gtacaaattt 360
caatgtggaa ttcgggaatg gggaattcag tgcatctgag atgaagaaga tcatggccag 420
tgagaaactg gcagagcttg caacggtgga tccaaaacgt gtcaaaaagg atattggcta 480
atcgccagtc ggctgcacgc tccaaggaaa gaaagatgcg ctatatctca 530

<210> 1580
<211> 561
<212> DNA
<213> Pinus radiata

<400> 1580
ctccactaac tccttcattt caacactcac agcatcggat ccgtgcgata aaacttctat 60
actggttcga tctctcagcc caacagccgt aggccgaccg ccattatcgt cctctaagaa 120
agcttgcatc catggaaaac ctgacgatct ctcaggaaag tgtaacacta caggcggacg 180
ctgccactgc tcttcaaaac gcaagaagtc cagagtgaaa agaactatca gagtacctgc 240
agtcagtgca aaattggcgg acattccatc tgatgaattc tcatggcgaa aatatggaca 300
gaagcccatt aagggctctc cacatccaag aggctattac aaatgcagca cagtgagagg 360
ttgccctgca agaaagcacg tagaacgcgc cctggacgat ccaaacgtat tgattgtaac 420
atatgagggc gaacacagcc attctcattc tggatctgaa aacacaggcc tggtactgga 480
ttcgtgagac ccacatacag acaaagacat tattctagtt ttatattacg ctacagaatc 540
cgccattatt acagcgggat g 561

<210> 1581
<211> 357
<212> DNA
<213> Pinus radiata

<400> 1581
cccagaacgg cataagcact gacaaaggat tttaagatct gtgcgatgtg ggatatggat 60
ttgccttccc aagggtcaag tttgagttca tctggttcag tttggactat acaacagaac 120
aaaatttttg aaaatgctct agctgatttt gataaagaca ccccagataa atgggagaaa 180
gtggcagcca ggctgcctgg aaaaactgct acggatgtta gaaagcatta tgaagatctc 240
gtggaagatg ttacttgtat tgaagctgcc gcgttgccct acccacgtac agtaactctt 300
cctgttcaca tgaatggtta gaaaaatcag gcgctatgca cggattgaag caacaat 357

<210> 1582
<211> 522
<212> DNA
<213> Pinus radiata

<400> 1582
gcgagctagg cggtacgtaa gcaggagaga gatttatttt cttgtgtttc agagtttttg 60
cagtgcgtct aaatggcggt agaaaccatg cggatgtcga gggtgagact aggaagttgc 120
gaggacgaat cccgggccgt caaagaaacc catttcaggg gcgtgcgaaa acggccgtgg 180
gggagattcg cagcggaaat cagagatcca tggaagaaga ctcgagtgtg gctgggcaca 240
ttcgacactg ccgaggaagc cgcccgtgct tacgatactg ccgccaggag attgcgcggc 300
cacaaagcta agaccaattt ttctgtcacc gccgactacc acaataacgc tggtgcgccc 360
gcactttcct ggactcaggc gctgcatcct cagcagccgg atctgaacgc cgcggctttt 420
gctttcgtat caaacaagag acgtgaagtt tcctctggaa gcgaccggct cgagttcgaa 480
tctcccaaca attctcttca cgctgcacct ctgagcaggc gg 522

<210> 1583
<211> 530
<212> DNA
<213> Pinus radiata

<400> 1583
ggcaggagtt cccgcaagct ttaagaaccc ttccctttgt gttagacctc caggttcctc 60
aggtacgcag tctctacatc gcgtgacgtt caagggagac gggatattca gagtccgatc 120
gccgccatgg ccgtagacac catacagatg gcgagagtgg gtgtaaaaat gaagatcgga 180
ggaggcggct gcgaggaaga ggcgtcctcg gctgtgaagg aaacgcattt cagaggagtg 240
aggaaaaggc cgtgggggag attcgctgcc gagatcagag atcccttgaa gaaaaccaga 300
gtctggctgg gcacttttga cactgcagag gaggccgccc gagcctacga taacgctgcc 360
agaaatctcc gcggggccaa ggcgaaaact aattttcttc tgtctcccca caatgacatt 420
agcaccaagg gcagcagcag cgccgccctg tcgagcaata gcaccaccag cgccgcctct 480
ggtcaaatcc aaaaccaatg gcccctgcgg ccatatttct attcgaatca 530

<210> 1584
<211> 435
<212> DNA
<213> Pinus radiata

<400> 1584
gcattgctct gctcgaacac atagtagtct gatctctgcg cttcgagcac tacgagaatt 60
gcttcaccat taccttcatc atccaccaat ggcggccgaa gattttaatg acaagaatgc 120
tgtattcaga aagctccggg ccaaacccga caacaagatg tgctttgact gtaatacaag 180
gaatcccaca tgggcatcgg tcacttacgg gattttcatc tgcctggatt gttctgcatc 240
tcatcgtagt cttggtgttc acattagctt tgtcagatct gtaaacctgg actcatggac 300
tcctgaacag ttgaaggtca tgagctttgg tggcaatggc cgaggacata cattctttaa 360
gcagcatggt tggaatgatg gaggtaaaat agaatcgaaa tacacatcaa gagcagctga 420
gctatataga cagct 435

<210> 1585
<211> 362
<212> DNA
<213> Pinus radiata

<400> 1585
gaaagacttg cagcttacat ggtggagggt cttgctgcac gaatagcatc ttcaggaaac 60
ggaatataca aagctttgaa ttgtaaagcg ccaccaagca ctgatacttt atctgccatg 120
caaatattat ttgaagtttg cccatatttc aaatttggtt gcatggtggc caatggtgca 180
atttgtgaag ccttcaagga tgagcagaag gttcatatac tagattttga aattgggcag 240
ggaagtcagt acataagcct cttaaatgtc cttgcagaaa ggcctggtgg gcctccacat 300
ttgcgcataa ctgcagtaga tgattctgaa gatgtaagat atattcctgg gggattggat 360
aa 362

<210> 1586

<211> 362
<212> DNA
<213> Pinus radiata

<400> 1586
caggagccga aaagacaaac tacgaacaaa atccctgtcc aaataacaag aaaaatggca 60
gagtcacagg ggtcgtctac acattacaaa ccgtacaggc agaagcagac tctctcaggc 120
caccgtggag cggtctcgtg cgtgaaattc tcaaaggacg ggcgtctcct gggcagcgct 180
tctctggaca aaacaatatg catatggtcg gcctctgctt cttcttctac ctctgcattc 240
aagcgggagc tccacggcca cagcgagggc gtctccgact tcgcgtggtc gtccgactcc 300
cgctatatct gctcggcttc tgacgacaag agcctccgca tctgggacgt ccacacgggc 360
ga 362

<210> 1587
<211> 389
<212> DNA
<213> Pinus radiata

<400> 1587
cttcggtctg cctgggtgcg tttctgaatt tctcgccaag tgagtgagtc gatccagcct 60
tgtttcagcg aaacctgttg tggttttggg ttttcttggc ttttgccttt tcattctttg 120
tttccttgga ttcgaactcg agatctcctg aatattatgg cacaggagag ctggaaccag 180
gaggagaccg ggtgccaagt cccggaaggg ctcatgcgct gtgccaacaa ctgtggcttc 240
ttcggaagtc cggccaccat gagtctctgc tccaagtgtt accgcgaatt cgtgctgctc 300
aactccccta aatcgtcctt cgataagccg caacagcagc tgccgatgca ggacgaggta 360
tctatcccga gacccgacgt tgctgctga 389

<210> 1588
<211> 416
<212> DNA
<213> Pinus radiata

<400> 1588
cagcaatggc ggcccagact atcatcgctg cctctatggc atctcctcta acattatcaa 60
atggccacta tccgtttnag tccgagttca aggggtccgt ggttcgaatc ccgcagaggg 120
cattttcctt cgcgcctgca gcccgggcgc tgaccgtcgt cgcataggcc aagaaggccg 180
ttgccgcgct caaagggaat tcacaggtcg agggtgttgt cagtctctcg caggaagaca 240
ggggtcccac aacagtgaag gtccgtttga caggactgac tcctgggaag catggctttc 300
atctacatga gtttggtgac acaaccaatg gctgcatatc aacaggagca cattttaatc 360
caaaaaaatt gacacatggt gctcctgagg atgatgtacg ccatgcgggt gacctg 416

<210> 1589
<211> 507
<212> DNA
<213> Pinus radiata

<400> 1589
tgcgagtcaa tgttctaatg atcccatttg tcacacatgc ggcaaatctg gtcacctctc 60
cagggattgt acggctccag agcttccccc tggagacatt aggctttgca acaattgtta 120
caaacaagga catatagctg ccgagtgtac gaatgagaag gcatgcaaca actgtcgcaa 180
gaccgggcat cttgctcgtg actgcaccaa caacccagtt tgtaatttgt gcaatatatc 240
tggtcatgtg gccagggagt gccccaaggc tcgcattttg gatggtaata ggggtggaag 300
atttattgac gataggcgtg gaagatttaa tgacataatc tgtaggacat gcaacgagcc 360
agggcatacc agtagggagt gcactggaat tctcatctgc cacaactgtg gtggccgtgg 420
acatgttgca tacgaatgcc cctctggtcg tgtgatgctg cgggacatgc gcaggcattg 480
atgctgcagt ttctacacca cctgact 507

<210> 1590
<211> 370
<212> DNA
<213> Pinus radiata

<400> 1590
cgatatttta tgttgttgaa gttggcaaaa ggagcattgg tcttaaaagg tcaaccctgt 60
aaggtcctga tcaacccttt gacaagataa aaatggacag aaattcagaa ttttatgaag 120
agacatcgtc acagaaaaat caggcatccg gatcaagtga tggaggtagt tttgattgca 180
atatttgctt agaattagcc caagatcctg tggtgactca atgtggtcat ctttttgtt 240
ggccttgcct ataccaatgg ctacagatgc actccatatc aaaagaatgc cctgtttgca 300
agggcggtgt agttgaagag aaggtaattc ctttatatgg gaggggtaag gtgggttctg 360
ctgatccaag 370

<210> 1591
<211> 308
<212> DNA
<213> Pinus radiata

<400> 1591
gttcccagga gaggagagcc tcagctgtct cgatctggcg ttaaggggtt acagaagaag 60
aatttcgaag atggttagat cttcttgcta ttcaaagcaa ggtcataggc gtgggatttg 120
gacccctatg gaggatatga ttctctctga atacattcga attcatggca gtgatggatg 180
gaaaaatatc gctaaacgag caggtcttaa acgatgtgga aagagttgca gattacgttg 240
gttgaactat cttcgccccg acattaaacg tggtaacatt tctcctgatg aggaggacct 300
cattatta 308

<210> 1592
<211> 361
<212> DNA
<213> Pinus radiata

<400> 1592
ggatattctg gtgtgcattg ctattctggc catgaatttt ggcagaatgt gcgattaggg 60
tttgattctg ggtgttcttt tcaggtacag cagagatttg aaggggattt gaatttgaat 120
catggaagtt gagtgctgca gccctcggtc ttccgctcag ggtgtgagg ttgacatgaa 180
gccaacgatg gtggtggaag atacgcttaa tcaaggatgc atgcaatatg gatgttcaca 240
ctaccgccgg agatgccaaa taagggctcc gtgttgtaat gaagtctttg actgtaggca 300
ttgtcataat gaggccaaaa attcaatgga tgtccatcca cttgacagac atgatgtacc 360
g 361

<210> 1593
<211> 378
<212> DNA
<213> Pinus radiata

<400> 1593
accaagctca tcacatggcg tccgagaagg aagctgctct tgctgccaca ccaccagaag 60
atgataaacc tacaatattt gacaaaatac tgcagaagga gattcccagt acagtggttt 120
acgaggatga gaaggtactt gcattcaggg atatcgcacc ccaagcacct actcacatca 180
ttatcatccc caaagtaagg gatggcttga ctggcctatc tnaggcagaa gagaggcatg 240
aggatattct aggtcacctg ctatacactg caaaagttat tgcaaagcag gaaggtttat 300
ctgatggctt cagaattgtc attaacgatg gtcctactgg atgccaatct gtgtaccatt 360
tacatattca tctactcg 378

<210> 1594
<211> 333

<212> DNA
<213> Pinus radiata

<400> 1594
```
gattgacgga tcgattgcaa tggcgtttgc ggaagagtat tccgatcgcg atgccgtatt      60
tcgaaagctg aaggcgaagt ctgaaaacaa gatttgtttt gattgcaatg ctaaaagtcc     120
cagttgggcg tccgtgacat atggagtatt catttgtctt gattgttcag caatgcatcg     180
gagtcttggt gttcatgtca gttttgtgag gtctacaaat ctcgatacat ggaccatgga     240
gcagttgaaa ttgatgagct ttggtggtaa tggccgtgca caattattct ttaagcaaca     300
tggttggact gaaggtggga agattgaatc aaa                                  333
```

<210> 1595
<211> 356
<212> DNA
<213> Pinus radiata

<400> 1595
```
ccttaacgtt gtctatgtgt tgatatatat cacaagtgcc gtctatcgcc tccttcggtt      60
cctggggttc cgagagtttg tggaacccga gacctcctgg ccagatgaaa tcaacccacg     120
gttgaagccc gtgacatttt ccgtatctgc gcagaggatt cgtgagcgat taccagtagt     180
tcggttcggc gttttagcgg aggaggccgg tgatgaggat gttatgtgcg ctgtttgctt     240
aaataacatg cagaggcatg aggagatccg aaggctaacg aattgccgtc acatcttcca     300
cagagactgt atggacaaat gggttgatca tgaccagaac gcctgtcctc tctgca         356
```

<210> 1596
<211> 378
<212> DNA
<213> Pinus radiata

<400> 1596
```
gtcaacgaga attgccacga tgggttaatg tggatttagg tctgggaagc tttaggataa      60
gttaatgtac cgaagtgtgg ttaattttag taaagaggat tgtgttttat catgcggatc     120
cagtgcgatg cctgcgagca ggcagctgct tcagtgatat gttgtgcaga cnaggctgct     180
ttgtgcaggg agtgtgatat aaaagtccac aaggccaaca agcttgccag caaacacaag     240
agattgcctc ttgtcggaac ttccccaaag ctctctcgct gcgacatttg ccaggatagg     300
gcagccatcg ttttctgtct cgaagatcgt gctatgctgt gccaagactg cgatgagtcc     360
gttcattctc gcgacaca                                                   378
```

<210> 1597
<211> 387
<212> DNA
<213> Pinus radiata

<400> 1597
```
tcgataatag cagggagagt ccccggccga acagacaacg aaataaagaa ctactggaac      60
actaacttga gcaagaaact tgctgtcagg ggaatcgatc ccaagactca taaaaaaatc     120
acgacggacg gcacgaacag agtcaacggt gatcgtttca gccagaggaa aggtgagaaa     180
atatatgatt ctccacagaa acctcgacag ccggaaagaa atgttgcgag ggccgcccaa     240
tcaacagggc tcgtgattcc taatgttcac aatctaaaag cggatttaaa agcgcaatat     300
attgcaagaa tcagagaatt taaaagctct aatactatca gctcctcttc tcgacttaat     360
gcacagattg agccaaagtc cagagag                                         387
```

<210> 1598
<211> 276
<212> DNA
<213> Pinus radiata

<400> 1598
ggtttgtcag atttggtgac gagaatgaga aaaaccgagc catgactgaa atgaatggtg 60
tttattgctc ttcaagacct atgcgaatta atgaagctac accaaagaag tccttgggat 120
ttcaacaacc ttattccatg aaaggtaact attacacaca ggcatatggt ggtgcagttg 180
ctagtcaggc cttccagtca gacaatgatc caaataatac aactatattt gttggtgggt 240
tagatccaaa tgcgacagat gaagatctga ggcagg 276

<210> 1599
<211> 374
<212> DNA
<213> Pinus radiata

<400> 1599
cacatcttga gcgaataaaa aatctacgtg atggtggagc tggtgctgaa gacagcgacn 60
aaaaggatga agactttgtt gcagaaaacg atgatgctgg atctccaaca gatgagtcag 120
aagaagaggg atcagatgca agtgagagtg cagaggtcaa gcaacctgca aagaaagaag 180
taaagaaaaa aaaggcggtg gctcccaagg caaccgagac caagaagaag aagaaggacg 240
acgaggaaga gggaggaaag aaaaagcagc ggcgaaagaa gaaggatcca aatgcgccaa 300
agaaagccat gactggattt atgttctttt ctcaagttga aagagagaat ctgaaaaaga 360
gtgacccaag aatg 374

<210> 1600
<211> 334
<212> DNA
<213> Pinus radiata

<400> 1600
gatctgtgtt gctgtttgat tccgcaagct tggggagatc aggatctgct ctttgttgta 60
aatgtcgata ttacccaaat cagattccat tcatattagg gaagtatggg ccgataatct 120
ggaagaggag tttaatctga tcagggaaat tgttgatgac taccctctga tagccatgga 180
cacagagttc cctggcatag ttgtgcgacc cgtgggcaaa ttcaggaccg tccaagaata 240
caattatgaa accctaaggt caaatgtaga cgtattgaaa ttaatacaat tggggctgac 300
gttttctgat gaaacggcaa cctcccaaac tgcg 334

<210> 1601
<211> 401
<212> DNA
<213> Pinus radiata

<400> 1601
gttaggccag ctcttagttc gagtccgggc cgctgctctt aatcctgccg actttaagag 60
acggaaaggc ttattaagaa acgcggattc cgattttccg actgtgccag gctgtgatat 120
gtcaggagtg gtggtggaaa ttggtgatgg tgtctccaag ttcaaggccg gtgacgagat 180
atacagcaac atccagaatt tcgcagcagg gaggccaaag cagtgcggga ctctcgccca 240
gtacacagtg gtggaggaat tcctggtagc gccgaagccc agtaatttat catttgagga 300
agccgcgagc ctgccgcttg cgcttcagac tgcgcagcag ggcttcgata caaccaattt 360
tgaaaagggg cagagcgtgt tcgttgtggg aggctcggnc g 401

<210> 1602
<211> 462
<212> DNA
<213> Pinus radiata

<400> 1602
ggtttgtcag atttggtgac gagaatgaga aaaaccgagc catgactgaa atgaatggtg 60
tttattgctc ttcaagacct atgcgaatta atgaagctac accaaagaag tccttgggat 120
ttcaacaacc ttattccatg aaaggtaact attacacaca ggcatatggt ggtgcagttg 180

ctagtcaggc cttccagtca gacaatgatc caaataatac aactatattt gttggtgggt 240
tagatccaaa tgcgacagat gaagatctga ggcaggtttt tgggccatat ggagagattg 300
tgtatgtgaa aataccagtg ggcaaaggat gtggttttgt acaattcacc aacaggtcct 360
ctgccgagga agctttgcaa agttacacgg cactgttatt ggtcaacaat ctattcgcct 420
ttcttggggt cgatctccag caaacaagca gactgcaagc tg 462

<210> 1603
<211> 358
<212> DNA
<213> Pinus radiata

<400> 1603
cagcgaagcc gatttccaaa gatggatagg gagaaactca tgaagatggc tggtgcagtc 60
cgcactggcg gaaagggtac aatgcgaagg aaaaagaaga caattcataa gactgccacg 120
gcagatgaca agagacttca aagtaccttg aaaagaatag gcgtgaataa catccctgct 180
attgaagaag tcaatatttt taaggatgac catgttattc attttgctaa cccaaaggtc 240
caggcttcta ttgctgccaa cacatgggtg gttagtgggt catcgcaaac aaaaaaactt 300
caagatcttt tccctggtat catcaatcag cttggaccag agagttttgc caatctga 358

<210> 1604
<211> 358
<212> DNA
<213> Pinus radiata

<400> 1604
accaagctca tcacatggcg tccgagaagg aagctgctct tgctgccaca ccaccagaag 60
atgataaacc tacaatattt gacaaaatac tgcagaagga gattcccagt acagtggttt 120
acgaggatga gaaggtactt gcattcaggg atatcgcacc ccaagcacct actcacatca 180
ttatcatccc caaagtaagg gatggcttga ctggcctatc taaggcagaa gagaggcatg 240
aggatattct aggtcacctg ctatacactg caaaagttat tgcaaagcag gaaggtttat 300
ctgatggctt cagaattgtc attaacgatg gtcctactgg atgccaatct gtgtacca 358

<210> 1605
<211> 461
<212> DNA
<213> Pinus radiata

<400> 1605
gcggacttta ttgtaaaaga gccaatggtg attggtcatg agtctgctgg aataattgag 60
gaggttggca gtgaagtgaa acatctggtt cctggtgacc gcgtagcttt ggagcctgga 120
atatcgtgtt ggcgttgtga ccaatgtaag cgaggctcct acaatttgtg tcccgagatg 180
aagtttttg caacacctcc cgtgcatggt tccttggcca atcagattgt tcatcctgca 240
gatttatgtt tcaagttgcc agataatgta agtctcgagg aaggtgccat gtgtgaacca 300
ctcagtgttg gggttcatgc ttgtcgccgt gcttctgtag gtcctgagac aaatgtcttg 360
gtaatggggc aggtcctatc ggccttgtca ccgtgctgtc tgcacgtgca tttggagctt 420
cacgaattat tattgctgat gtagatgaag agcgtctgtc a 461

<210> 1606
<211> 463
<212> DNA
<213> Pinus radiata

<400> 1606
gccactgttt gtatgtgatc tccgggcctt gagcttatac gtttttcagt tgcaggtttg 60
gagcctgtca aattatactt accatgattt ggaaagaagc tgcgacagtg ctacacaagg 120
cccaacatct ggagaagcca cccttcatct ttactgtatt tatcgcatct tttataggat 180
tcgccgcctt ctcgtatctc atcactaacc gtagaactag ggaattacga ggaatcccgc 240

ccggcacctt tggatggcct ttgatcggcg agacattaga atttctggga tgccagagaa 300
ggggaaggcc ccaggatttc tgtgaccgtc gaacacagaa gtatggaaac gtgttcacca 360
cttcccttgt gggcacccga cagtggtatt atgtagtccc caaggcaacc gcttcttgtt 420
cgccaacgag aacaaactgg tggtaaattc atggcccgcc tct 463

<210> 1607
<211> 410
<212> DNA
<213> Pinus radiata

<400> 1607
tcctgacttt gctaatgaga cattcggccc aagcttagtc gttgttatcg ctgccctgtt 60
cctctcaatg ctatgctttt tgttgttcaa tgccctgctc cgctgcagac ggctctacag 120
gcgatggcga gtggtgtcgg agccatcacc caatatggat gtcgaaagaa ctgaatctgg 180
catcgagaaa aaggatttag aagcactttc agccacagtt taccgcaaag cccacccccct 240
cagagccatg gattgcccca tttgcctggc ggaattcaaa gaaggagaaa aggtgagagt 300
attaccagaa tgctgtcact gtttccatgc agattgcata gacgcatggc tgctttccaa 360
tgcttcttgt ccttcatgtc gacacactgt cctttgcgca ttgccgaaga 410

<210> 1608
<211> 357
<212> DNA
<213> Pinus radiata

<400> 1608
taataattgg gtactgtgga gattttcctg tgcattgacc attacaatgg ctgagacagt 60
ggttttgaag gttggcatgt cttgcgaagg ttgtgttgga gctgtaaaac gagttctcaa 120
taaaatggaa ggtgtggaaa catatgatgt gaacttgaag gagcaaaaag taactgtgaa 180
agggaacgtg aagcctgatg ccgttctgca aactgtttca aaaactggaa aggaaacatc 240
cttctggcca gaagagaagg atgccaccac gtgatggtgc atattctcag gtttaatata 300
gatatggaca tatattgaac atgctttttt gaggcacttt taataatatt tctaata 357

<210> 1609
<211> 222
<212> DNA
<213> Pinus radiata

<400> 1609
ccaagaacgc gggaaggaag aggatgaatt tgtacagagg catcagacag cgtccatggg 60
gaaaatgggc tgcggagatt cgagatccca gaaagggggt tagggtttgg cttggaacgt 120
ttaacacggc cggaggaagc tgccagggcc tatgacgcag aggcttagaa gattagagga 180
aagaaagcta agcttaactt taccgatgat tcatgctcag ta 222

<210> 1610
<211> 302
<212> DNA
<213> Pinus radiata

<400> 1610
gttcagccta tggttgtctg ctaaatcgct tccacaaatg tcgatccatc tggagagacc 60
tcttataact gaaatacaag tgcgtatgga ctgtaatggc tgcgttcaga agatacgcag 120
agctctgcaa actcttcaag gcatttatga cgtttacata natttccccc aacaaaaggt 180
gacagtggta ggatgggttg atccagacct attaatgaag gccataaaga aagccgggaa 240
aagagccaaa ctgtgcagcc acgtacgcga tgaagaaacg gtcgagagag ccgacccggc 300
gg 302

<210> 1611

<211> 268
<212> DNA
<213> Pinus radiata

<400> 1611
gaatgaagtt agatacggca aagaaaggcc ttcctccagg caccatggga tggcctctct 60
ttggagaaac tcctgatttt ctcagatatg gtcaacaatt tatcaaaaac agaaaggcca 120
gatatggaga tttgttcaag actcacattc taggatgccc gacggtgata tcgacggatc 180
cagctctcaa cagatatatc ttattgaatg aaggccgagg actaattcct ggatacccgc 240
agtctatgct tgacacattg ggaaaatg 268

<210> 1612
<211> 312
<212> DNA
<213> Pinus radiata

<400> 1612
gctcactgga ataaacactc ttcgcatcca gcccttcaaa cttcccctct tggcccccat 60
gatgcgaagg tgcgcatgaa ggctgtgggt atctgtggca gtgacgtcca ctatttgagg 120
acattacggt gtgcggactt tattgtaaaa gagccaatgg tgattggtca tgagtctgct 180
ggaataattg aggaggttgg cagtgaagtg aaacatctgg ttcctggtga ccgcgtagct 240
ttggagcctg gaatatcgtg ttggcgttgt gaccaatgta agcgaggctc ctacaatttg 300
tgtcccgaga tg 312

<210> 1613
<211> 324
<212> DNA
<213> Pinus radiata

<400> 1613
gctggctaca gcttatgcct tccgattcgt gggtgaatgg atgaaatggc tatacttgga 60
tgtaacaaaa cgtttgggag caaaggattt ctcaacattg gctgaagcac atgcatgtac 120
tgctgggtta aagtcattga caacatcagt gactgcggat ggcattgaag attgtcgtaa 180
gctttgtggt ggacatgggt acttgtgcag tagtgggctt ccagagctgt ttgctgtata 240
tgttcctgcg tgcacatatg aaggagataa cacagttctg cttctacagg tagcaagatt 300
cttgatgaag acagtccaac aact 324

<210> 1614
<211> 395
<212> DNA
<213> Pinus radiata

<400> 1614
gttcccagga gaggagagcc tcagctgtct cgatctggcg ttaaggggtt acngaagaag 60
aatttcgaag atggttagat cttcttgcta ttcaaagcaa ggtcataggc gtgggatttg 120
gacccctatg gaggatatga ttctctctga atacattcga attcatggca gtgatggatg 180
gaaaaatatc gctaaacgag caggtcttaa acgatgtgga aagagttgca gattaccgtt 240
ggttgaacta tcttcgcccc gacattaaac gtggtaacat ttctcctgat gaggaggacc 300
tcattattag gttgcatggc cttcttggca atcgcaggac gactaccggg tcgaacagac 360
aacgaaatca agaattactg gcacactcat atgag 395

<210> 1615
<211> 231
<212> DNA
<213> Pinus radiata

<400> 1615

ttacattcaa ccaagctcat cacatggcgt ccganaagga agctgctctt gctgccacac 60
caccagaaga tgataaacct acaatatttg acnaaatact gcngaaagag attcccaatn 120
cagnggttta caaggatgag aaggtacttn cnttcaggga tatngcnccc caagcaccta 180
ctcacatcat tatcatcccc aaagtaaggg atggcttgac tggcctatct a 231

<210> 1616
<211> 396
<212> DNA
<213> Pinus radiata

<400> 1616
ccggtccggg cggtggagag catcagcctt ggagttacag accaggaaaa tacaagatgg 60
gtagatctcc ttgctgctcc aaagaggggc tcaaccgcgg ggcctggacc aaaagggagg 120
atatgattct ctccgaatac gttcgaattc atggcgatgg tggatggaga aatcttccgg 180
aaaaagcagg tcttaagaga tgtggaaaga gttgcagact acgctggttt aactatcttc 240
gtcccgatat taaacgcgga aacatttgcc ccgccgagga ggagcttatt attcggctgc 300
atcgccttct tggcaatcgg tggtcactga tagcaggacg actgcctggt cgaacagaca 360
acgaaatcaa gaactactgg aacactcatc ttgagc 396

<210> 1617
<211> 296
<212> DNA
<213> Pinus radiata

<400> 1617
gtcggcgtcg gcggcggctg cgaggaaacg gcggcgtcag ctgtgaagga aacgcatttc 60
anaggcgtga ggaagaggcc gtgggggaga ttcgctgcgg aaatcagaga tccctggaag 120
aagacgagac tctggctcgg cacttttgac acagccgaag aggccgcccg cgcctatgat 180
aatgccgcca gaaatctacg cggcccccaag gccaaaacca atttcgctat ccacgacgat 240
agcgcccgcc ctgttcaaca gtggcggcgg acgcgccgtc cctagtcagc gacaag 296

<210> 1618
<211> 381
<212> DNA
<213> Pinus radiata

<400> 1618
gagctttctc tcaagaacat tcttacagca aatgagcaga ctacaactgc agaacccaga 60
aataataata cagttgtttt cctggaatct attactaatc catctgtcag agttgcggat 120
ttaccgtcta tttccactgt atgtaaaaag tatggagcat ttcttatagt agataataca 180
tttgctacac cgataaggat caagcccatc aagcagggtg ctgacatggt cattcattca 240
gtaacgaaat ttcttggtgg ccatagtgat ctggttgcag gagtagttgc aggctcttct 300
caccacatag agttagcctc aaagctggta ggtcgctggg ggctgcttgc tgctccattc 360
gattcatggc ttgccactcg c 381

<210> 1619
<211> 373
<212> DNA
<213> Pinus radiata

<400> 1619
cggtccatgt gacttcgaca tccatgagtc ctgcgcccaa gctcctaacg ccactctcca 60
ttcctgtcat ccccagcatc ctctcgtgtt gagggacaaa ccagtttcac cacaacgcgt 120
atgcgacgtc tgtggaaggg atgttttagg attcgtttat gactgccgtg aatgtgacgt 180
ggacgttcat ccctcctgtg cacagctgcc gcagacgctg cgccacgctc tgcatccaca 240
ccacaccctt caactctccc atggacctga agctcccgcc cctcctgcac gctcctgtaa 300
cgtatgcgga gaagcctgta gccctgggca ctggagctat cgttgcgaat tagccagtgc 360

gccgtgtgat ttc 373

<210> 1620
<211> 137
<212> DNA
<213> Pinus radiata

<400> 1620
cacgggttcc agaccttttg catcttcatt attcttccgc ctgtgaaaag atggggagat 60
ctccgtgctg tgagaaggct catactaaca aaggggcctg gactaaacaa gaagatgacc 120
gccttatcgc tcacatt 137

<210> 1621
<211> 372
<212> DNA
<213> Pinus radiata

<400> 1621
gttcccagga gaggagagcc tcagctgtct cgatctggcg ttaaggggtt acagaagaag 60
aatttcgaag atggttagat cttcttgcta ttcaaagcaa ggtcataggc gtgggatttg 120
gacccctatg gaggatatga ttctctctga atacattcga attcatggca gtgatggatg 180
gaaaaatatc gctaaacgag caggtcttaa acgatgtgga aagagttgca gattacgttg 240
gttgaactat cttcgccccg acattaaacg tggtaacatt tctcctgatg aggaggacct 300
cattattagg ttgcatggcc ttcttggcaa tcgcaggacg actaccgggt cgaacagaca 360
acgaaatcaa ag 372

<210> 1622
<211> 464
<212> DNA
<213> Pinus radiata

<400> 1622
ctgaattgca tttcttagtc ggcaaaaata ttaaagagtc aagacaaaga gggggttacg 60
ggagcaggct gcgggttcga tcccaagata aggaaaaaag aaagaaaatt tcatgaattg 120
ggcctgtaga ttccagtcac gaaattaaaa cctatcggtc tcgtcttcga gctaaagttg 180
gggaaaaagc taagctctca gggaatgggt tcccgcacaa tgctgtcctc taatggtggc 240
cggacacctc agttccaacc actcgttcgt cagaattctt tatacaattt aacgctggag 300
gaggtccaga accagctcgg ggacgccagc aagccactta gcagcatgaa catggacgag 360
ctcctgaaga acatttggac acaagagaaa gccaggctat atccatggcg atcggcaatg 420
ggcccatgaa cggtgttcct cccaactctg cccctgccag cggt 464

<210> 1623
<211> 436
<212> DNA
<213> Pinus radiata

<400> 1623
aagaaaaatg ggctgaatag tctcagggag ggttttaaat tgaatgagta ggtttttctg 60
gggtgagatt ctttcatatt tatgcgtaaa acgttgactc caatcggcgt gaaacaaacc 120
aatagaaatc ccaaattgat ttctttcaat ttcatctgat acacagagag aattcagtca 180
gtggaagtca tgtctaacat aacgtctgcc tctggagagg ccagcgtttc ttctggcaat 240
acagctgcca tggctgatag tgagagcatt cggcaacagc caccacaaca attctcaaca 300
ccaacgtctg caaatggcgc cggaaatata aacagtgctc agcaaaaccc agagaagaag 360
agaaagagaa atcttccagg aactccagac ccagatgcag aagtgattgc tctgtcgcct 420
aggactctca tggcta 436

<210> 1624

<211> 337
<212> DNA
<213> Pinus radiata

<400> 1624
gccagagctg tggctgttcc cagaagagga tatcatcagc tgtccagttt gtcctaagag 60
actacagaag aagaatatag aagatgggta gatccccttg ccccccaaaa gaagcgctta 120
accgtggggc ttggacaggc atggaggata cgattctcac cgagtacatt cgagttcatg 180
gcagtggtgg ctggaaagat atctccaaaa gagcaggtct taagaggtgt gcaaagagtt 240
gcagattgcg ttggctgaac tatcttcgtc ccgatattaa acgtggtaac atttctcccg 300
aggaagaaga gctcattatt cggttgcatc gccttct 337

<210> 1625
<211> 421
<212> DNA
<213> Pinus radiata

<400> 1625
ctgaagtgcc gtcgattgtt cgggaggata gcgttttcga agttcgttgt tgagttatct 60
cgcgagactg tagaatttta gggttgtttt ccacaaaccg acttttcccg acttcaaatc 120
ttgatattga agtgacatgg ccggcgagaa aagaaagatt aatagaatag ctaacgcttc 180
ggccaggcag gtcaccttcg cgaagaggcg gagggggctg ttcaaaaaag ctcaggagct 240
atcgatttta tgcgaagccg atgtagccct cctcgttttt tcttcaactg gaaagctgta 300
ccagtactcc agctccagca tgaaaatgat attggaccag tatattttgt attctagatc 360
aattcaaaag gatggaaagc caaatctgga ggagagtcac gatatccaaa agataaacca 420
c 421

<210> 1626
<211> 315
<212> DNA
<213> Pinus radiata

<400> 1626
tgcatttcag ccagtccatg gtttcaaggt cgaatctcct tgctgacatg aatccatcaa 60
tatatataga gagagagaaa tatacgtttt tcagatttaa gcatggccgt ttaataatct 120
gcattgcatg gcgagattgt atttgtgtta gaagttgatt ttctgttttt tctctttcag 180
ttagttagtc caataaagca gagatgggtc gtgctccatg ctgcacaaaa gttggtctca 240
acaagggagc atggtctgcc gaagaggata gtcttctggg aagatatatt caaactcatg 300
gtgaaggcaa ttgga 315

<210> 1627
<211> 373
<212> DNA
<213> Pinus radiata

<400> 1627
cacatccata catgtggggt ggacagccgt tgatgccacc ttatgggact ccactaccat 60
atcctgcaat gtatccacat ggaggaatct atgcacatcc ttccatgcct ccgggtgcac 120
ttccgtatgg tcactatgga atgccatcac ctggcaatgc tgaagttaca acgactttag 180
cacttccaaa tgctgaagca gaagccaagt cctcggaagg caaagagcgg aatacaatga 240
agagatcaaa aggaagttta ggaagccttg gaatgattac tggcaaagga ggagaaggtg 300
gcaaggcaac atcgggatct gcaaatgagg ccatgtcaca aagtggggac agtggcagtg 360
acggttcaag cga 373

<210> 1628
<211> 512
<212> DNA

<213> Pinus radiata

<400> 1628
cggtaatagc atagagggat tatacagagg tggattgtta ttgaaaccca gtagtggagg 60
tagagtcttg acaagttggg acaaaggagg gaattccacg gatgttatag atatggatat 120
agggactggg agactaacag gttctgaaag gagacatgac aaacggaatc ctacatttac 180
agaccattat agacattcag acagtgatcg aatgaagatg aacagctact tatatccaga 240
aaacaacaat agcacggcgc ttgttgcgtc tctgtttgtt cccaggaacg acaaacttgt 300
aaagattgat ggcaacctta taatccatgc agttctagct ggggaaaaag cctcgagagc 360
attatctgcc tcacagtcta gaggcaacaa agatgggcat gtagacacca tttcacttca 420
aaaggaatat gaaaagaata gtttggcagt cagaacagaa aggcatcgtg ctcttgctgc 480
tgctgccgcc gccactacag attcagccag aa 512

<210> 1629
<211> 395
<212> DNA
<213> Pinus radiata

<400> 1629
gagaaaacgg acctgaccat atcgaaacat tcacaggggg agattgatca aacacaaata 60
ccgtaaaatc gcagcgaaaa tccaaaattc caccatgggg actgtggcgg aggatggcag 120
caagggttac aaggccgtaa atccccatcc caaaaagggc gtcgcctcgt ggctggtgga 180
catggtggag aaactggtgg ttgaaacttc tgcgttgtat agttcgaaga agcctctgca 240
ttttcttttg ggaacttcg ctccagtctc ggaaactgcc cccaaatcgc acctgcctgt 300
tgttgggcaa cttcctagtt gcttggatgg agagttcgtg cgcgttggtc ccaatccgaa 360
attcgcaccg gtagctggct atcactggtt tgatg 395

<210> 1630
<211> 285
<212> DNA
<213> Pinus radiata

<400> 1630
ctctgcattt tcttttgggg aacttcgctc cagtctcgga aactgccccc aaatcgcacc 60
tgcctgttgt tgggcaactt cctagttgct tggatggaga gttcgtgcgc gttggtccca 120
atccgaaatt cgcaccggta gctggctatc actggtttga tggagatgga atgatccatg 180
gtctcagaat taaagatggt aaagccacat atgtgtcacg ttatgtgaag acatcacgct 240
tgaaacaaga ggaatacttt gggaaagcaa aattctttaa gattg 285

<210> 1631
<211> 438
<212> DNA
<213> Pinus radiata

<400> 1631
gtttttcaaa gctcaggttt aacagaaaat acccgggaaa attaacaaga aaaaaggaaa 60
aacagagatt ttgtttattt ctgttattag tctgctaaat tggtttttga taatttaatt 120
aattaaggcg gggcccgca cctccaggca gtggcggaga ccagtgggcg gccctgccac 180
ccgaggagga gagccgcgtg cgctttctcg acttcgaacc cgcggctatg gaggcgctgg 240
atcaggtact ctgcctgcgt ctcggtgaag ttgctgaagg ccactgggga gaagccggcg 300
gcggcgaaca gggtcttcca tggcggagcc ggcggcggag gaaatggtgg cgtcgatctt 360
cggagctagc aggaacttct cgatcttgtg cacggcctcc atgttgatgt tcacggcatc 420
cagtgaatcg aacaggaa 438

<210> 1632
<211> 457
<212> DNA

<213> Pinus radiata

<400> 1632
ccatatcgaa acattcacag ggggagattg atcaaacaca aataccgtaa aatcgcagcg 60
aaaatccaaa attccaccat ggggactgtg gcggaggatg gcagcaaggg ttacaaggcc 120
gtaaatcccc atcccaaaaa gggcgtcgcc tcgtggctgg tggacatggt ggagaaactg 180
gtggttgaaa cttctgcgtt gtatagttcg aagaagcctc tgcattttct tttggggaac 240
ttcgctccag tctcggaaac tgcccccaaa tcgcacctgc ctgttgttgg gcaacttcct 300
agttgcttgg atggagagtt cgtgcgcgtt ggtcccaatc cgaaattcgc accggtagct 360
ggctatcact ggtttgatgg agatggaatg atccatggtc tcagaattaa agatggtaaa 420
gccacatatg tgtcacgtta tgtgaagaca tcacgct 457

<210> 1633
<211> 318
<212> DNA
<213> Pinus radiata

<400> 1633
aattgttgat aatcagattc cattgagtgg acctgattca gttattggta gggcacttgt 60
tgtccatgag ttagaggatg acctggggaa aggtgggcat gaacttagtc tgacaactgg 120
caatgctggg ggcaggttgg cttgtggtgt ggttggactc actcccattt aaggcccagt 180
caaatatgga atgatcttca aaggtcatgg acatcgtatg aaaccagtga ctgcaataat 240
aattccaaaa tatatgttct ttatcctcgc aagattgtta gcaattgtga tttgtttttg 300
gtattaacga gttgcact 318

<210> 1634
<211> 211
<212> DNA
<213> Pinus radiata

<400> 1634
gccgtggctg ttcccaggag aggagagcct cagctgtctc gatctggcgt taaggggtta 60
cagaagaaga atttcgaaga tggttagatc ttcttgctat tcaaagcaag gtcataggcg 120
tgggatttgg accccctatgg aggatatgat tctctctgaa tacattcgaa ttcatggcag 180
tgatggatgg aaaaatatcg cttaacgagc a 211

<210> 1635
<211> 350
<212> DNA
<213> Pinus radiata

<400> 1635
ggtttcttta tatttatgtg cagattgcct ggacggacac ttgccaatgg acgtctcata 60
tggctgtgcc aggccaacga agcggacagc aaagtcttcc cacgtgctct tcttgctaag 120
agcgcctcta ttcagactgt tgtatgcatc cctctcgcgg acggtgtctt ggagtttgga 180
actactgaag tggagcgaga agaccctggt ctagtccaac gcaccataag cttttttttg 240
gagtacccca aaccgatatg ttcagagcaa tctacatcca gcccacagtg ctcagacaga 300
gacgaaaagg atcaagtggg catggtcaca ataatgtcct ccgacagcat 350

<210> 1636
<211> 356
<212> DNA
<213> Pinus radiata

<400> 1636
ggttgctgga ttccaacgga aaggatttgc ctctttcatc agtctataat cgaggatctc 60
tgcagtcctt tactagtgaa ggtcattccg tttcaacagt aatcctccgt attgaaaagg 120

aggaagaaga gtttgtcttt gttgacattc ctgaaagacc aattccctct ctactacgca 180
attatagtgc tcctgtgcgt cttgtttcag atatcactga tgatgatttg tactttctac 240
ttgcacatga ttcagatgag tttaaccggt gggaggctgg ccagacattg gcaagaaaac 300
tcatgctctc tctcgtagat aaggcgcaac agaatcaacc attgagtgtg gaccca 356

<210> 1637
<211> 362
<212> DNA
<213> Pinus radiata

<400> 1637
cgaggctccg ttcaacccct ttcatcttca atcgttccaa ggcctcttcg gtctgcctgg 60
gtgcgtttct gaatttctcg ccaagtgagt gagtcgatcc agccttgttt cagcgaaacc 120
tgttgtggtt ttgggttttc ttggcttttg ccttttcatt ctttgtttcc ttggattcga 180
actcgagatc tcctgaatat tatggcacag gagagctgga accaggagga gaccgggtgc 240
caagtcccgg aagggctcat gcgctgtgcc aacaactgtg gcttcttcgg aagtccggcc 300
accatgagtc tctgctccaa gtgttaccgc gaattcgtgc tgctcaactc ccctaaatcg 360
tc 362

<210> 1638
<211> 359
<212> DNA
<213> Pinus radiata

<400> 1638
cgaaactcga atcgatatgc tttgtggccg gttcaaatat ttgagctggc ttagcttctc 60
tggttcagaa atggcggact aaagtaatag tgtgccccga ggtctggtgt tcgaatctcg 120
ttggcgtgaa aggtcaaatt tttctctcga gtttcattga ttctgaaaaa ctggcatagc 180
tatggcgatg agcaatggga gattgtgtga agatttggat aggattaagg ggccgtggag 240
ccccgaggag gacgcgtcgc tgcagaggct tgttcagaaa tacgggccga ggaactggac 300
cctgataagt aaaggaatcc cggggcgatc cgggaaatcg tgcaggctac ggtggtgca 359

<210> 1639
<211> 299
<212> DNA
<213> Pinus radiata

<400> 1639
cgagcaacag cgaagccgat ttccaaagat ggatagggag aaactcatga agatggctgg 60
tgcagtccgc actggcggaa agggtacaat gcgaaggaaa aagaagacaa ttcataagac 120
tgccacggca gatgacaaga gacttcaaag taccttgaaa agaataggcg tgaataacat 180
ccctgctatt gaagaagtca atatttttaa ggatgaccat gttattcatt ttgctaaccc 240
aaaggtccag gcttctattg ctgccaacac atgggtgggt agtgggcatc gcaaacaaa 299

<210> 1640
<211> 300
<212> DNA
<213> Pinus radiata

<400> 1640
gaaactatga accgcgcata aaatcgaagg cgaggagtgc tagaagaggc ggtgaagttg 60
aagttgttat gggggggaatt atgctggtcg ggtcgacgat gattcctgcg ggcggcgcgg 120
cggcagcggc ggagacgtcg gtggaggaag gaggagaatt gaataagatc gaaagcccta 180
caccatcacc aagtccagag aaagctggac tgagcaggag cacaacaaat ttctgcgaag 240
ctatgcagcc tgtttgatag ggactggaag aagaattgaa gcatttggtt ggttcacaag 300

<210> 1641

<211> 311
<212> DNA
<213> Pinus radiata

<400> 1641
gttcagctgt tcgcaaagca cggagcgaaa gtcataatcg cagacgttgc agagaaagct 60
ggcagaaagc ttgcagaatc cctttctcca gcatcggcaa cttatgtgca ctgtgatgtc 120
agcaaagaag aagacgtgag cgcggctgtg gatctggcta tggataagta tggtcaactc 180
gacattatgt ataacaacgc tggaactaac gacagctttc tggtgaagag cgtggcagag 240
tatgatatgg agcaattcga tcgagtgatg aacgtaaacc tgaaaggagt gatgcacggc 300
attaagcacg c 311

<210> 1642
<211> 350
<212> DNA
<213> Pinus radiata

<400> 1642
agggatcagg caacgtccat gggggaaatg ggctgcagag atcagggatc ccagaaaagg 60
cgctagggtt tggctgggta cctttaatac ggcggaggaa gctgctcggg cttatgatgc 120
agctgcacga aagatcagag gtaagaaggc gaaagtaaat tttgttgatg agccaccacc 180
ctccgttaag aaggaaagta ataatgctaa gggttccaag aaagggtcca gcaagaaaat 240
aaaatcatat ctaccccaaa gcctgacttt ttcgaaggtt tcaaaacggc gaacccttcg 300
attgcccaat acaacttcca tcagaaattc ccaaacccta actgtgatga 350

<210> 1643
<211> 322
<212> DNA
<213> Pinus radiata

<400> 1643
gacttttgct ccgaactgtt ctgctgaaac aaaatccagt attgagctag gtttagaatc 60
gggtttgctg gtcatctggg agaggcgatc cattcagctt cgcaggcccc cgaagatggc 120
gttcgccggc acaacccaga agtgcaaggc atgtgaaaag acggtctatt tggttgatca 180
attgacagct gataattctg tttttcacaa atcctgtttc cgctgccatc actgcaatgg 240
aactttaaag cttagcaact attcgtcgtt tgagggagtt ctatattgca aacctcattt 300
tgaccagctg tttaagagaa ca 322

<210> 1644
<211> 345
<212> DNA
<213> Pinus radiata

<400> 1644
gccgaaactc gaatcgatat gctttgtggc cggttcaaat atttgagctg gcttagcttc 60
tctggttcag aaatggcgga ctaaagtaat agtgtgcccc gaggtctggt gttcgaatct 120
cgttggcgtg aaaggtcaaa tttttctctc gagtttcatt gattctgaaa aactggcata 180
gctatggcga tgagcaatgg gagattgtgt gaagatttgg ataggattaa ggggccgtgg 240
agccccgagg ggacgcgtcg ctgcagaggc ttgttcagaa atacgggccg aggaactgga 300
ccctgataag taaaggaatc ccggggcgat ccgggaaatc gtgca 345

<210> 1645
<211> 508
<212> DNA
<213> Pinus radiata

<400> 1645

cgtgtcaaag cccaaacgac ccgtttcaac gcttataaca tattatgtga gtatcggagt 60
ggaaaggcag caccgagaaa catatccgag gagaaagtat actcatatat taacgtaacg 120
gaaaatggaa ataatgatga tcaaggcaaa ggtattacag aggtccatcc tcatcccaag 180
aaaggcatcc tttcatcggt aattgatttg gccgagaaaa tcgtggttcg ctcgctctac 240
ggctccgcca aacctctgca ctacctcgct ggtaatttcg caccggtcga acaagaaact 300
ccgccgcaca cagacttgtc cgtcattgga aatctcccta aatgcttgga tggagaattt 360
gtgcgagtcg gtcccaatcc cagattttgc cccgtcgct ggctatcatt ggttcgacgg 420
agaccggaat gctcatggtt tgaggattaa agatggcaaa gcagcttatg tttcgcgttt 480
ccgtcaaaac ttcacgtctc aagcaaga 508

<210> 1646
<211> 368
<212> DNA
<213> Pinus radiata

<400> 1646
tggctcttcc cggcagacct agtaagccga ctactgtaaa tttattcttt tagggttaca 60
gaaaaagaaa atacaagatg ggcagatctc cttgctgctc aaaagaaggg ctcaaccgtg 120
gggcctggac caaaagggag gatatgattc tctccgaata cattcgaatt catggcgatt 180
gcggatggag aaatatgccc aaaagagcag gtcttaaacg gtgtggaaag agctgcacga 240
ttacgatggc tgaactatct tcgccccgac attaaacgtg gaaacatttc ccctgatgag 300
gaggaactca taattcggct ccatcgcctt cttggcaatc gatggtcgct tatagcattg 360
aagattac 368

<210> 1647
<211> 367
<212> DNA
<213> Pinus radiata

<400> 1647
cttcccttca tcagatgttt cccaggctgc actcatcagc tgcagcacca cgcggttttg 60
gattctccct gttctttgtt ctgttgcgtt aaagattggt tgcaggtcga atcgcccagg 120
ccgatttgaa ttctcctgag gattgacaag atgacgcgca agtgctcgca ctgtggcaac 180
aacgggcata actccaggac gtgccctaac cgcggcgggg tgaagctctt cggcgttcgg 240
cttaccgatg gcccgatcag aaagagcgct agtatgggga atttgatgat gatgtccaac 300
cctagctctc ccgctgaccc ctccnagccg gcctctgccg cttctgctgc cgcggcggcg 360
gcggcca 367

<210> 1648
<211> 511
<212> DNA
<213> Pinus radiata

<400> 1648
gtggctcttc ccggcagacc tagtaagccg actactgtaa atttattctt ttagggttac 60
agaagaagaa aatacaagat gggcagatct ccttgctgct caaaagaagg gctcaaccgt 120
ggggcctgga ccaaaaggga ggatatgatt ctctccgaat acattcgaat tcatggcgat 180
ggcggatgga gaaatatgcc caaaagagca ggtcttaaac ggtgtggaaa gagctgcaga 240
ttacgatggc tgaactatct tcgccccgac attaaacgtg gaaacatttc ccctgatgag 300
gaggaactca taattcggct ccatcgcctt cttggcaatc gatggtcgct tatagcagga 360
agattaccag gtcgaacaga caacgaaatc aagaactact ggaacactca tatgagcaag 420
aagctgcttc cattgaacga atctcaaccc aagactttgc ctgtccccaa gaggaggtcg 480
caatctcctt ctcccctgca aaatcgagtc t 511

<210> 1649
<211> 364
<212> DNA

<213> Pinus radiata

<400> 1649
tgcgcctcca tccgaccaaa caagtggggg acatgcatat tgcaagtgtg gagaacactg 60
cagctgcaat ccatgtaact gttcaaagat tgacgagact gttagtggga aatccttctg 120
taaatgtgga gagaattgcg cctgtgaaac atgcacctgc agcagagctg gaatatagcc 180
tagttgattg tttttctcag ccagaactta ggattccatg accactagta ataagatgca 240
gtatcaatag cagctgatgt ttatgtatgc agtaagttta taaaagagag tggttacttt 300
ttggctttag taatttggtg cttatgttat gtatgtagta agtttatctc caaatacaga 360
gccg 364

<210> 1650
<211> 354
<212> DNA
<213> Pinus radiata

<400> 1650
caagagtaaa cccgaaggaa tagaagggga aggaggcatc ggcagcgttg ttcctcctcc 60
tctcctctcc tgcatttctc aaactcaaat acctctcctc tcacatcatg gaaggcggag 120
tcgtctttga atctgtgcaa aacccactgg atcgcctgaa cactggaaat atggaccatg 180
gttgtgccca ttacaggaga cgatgtcgga ttcgggcccc ttgttgcaat gagatctatg 240
attgtaggca ctgtcacaat gaagccatga gccatctaaa ggaccccttg ctgcgccatg 300
agctcccaag atacaaagtt gaacgggtta tttgttctct ctgtgacact gagc 354

<210> 1651
<211> 424
<212> DNA
<213> Pinus radiata

<400> 1651
cttcctggtg ttgttgctgt gatttctctg ccattctgtg ttgggtttat ggttttagct 60
tcactacaag cctttagcaa gcctcacaaa taagctttgc agtaggatgt ctcctccccc 120
gtcatattcc atgtttccca attcaggaat gggcttaaat ccctcagtga catcttcaga 180
accctctagt caggtctccg gatcgatccc ccatcaatat tcaggctccg aggaagaccc 240
taaactgacg atcgatgaaa gaaagcagaa gagaatgctt tctaacagag aatctgcaag 300
gaggtccagg atgagaaagc aacagcattt ggatgaattg agagcccgaa cagctcatct 360
cagagcagag aacagtcata tgctaacaaa attcaacatt gcttcacaga aatacatgca 420
gctg 424

<210> 1652
<211> 422
<212> DNA
<213> Pinus radiata

<400> 1652
gtcaatgctg cccgtcgaac tggaggccct attgaaacta tcaagaaatt taatgcagga 60
tcaaacaaag cagcctcgag cagcaccacc ttgaacacca agaagcttga tgatgagaca 120
gaagttctcg ctcatgaaag agtttcatca gatttgaaga aaaacataat gcaagcccgt 180
ttagataaaa agttgacaca agcccagctt gcacagcaaa tcaatgaaaa acctcagatt 240
attcaagagt accgagtccg ggaaagcaat tcccaatcag cagatcattg ccaagctgga 300
aagggtcctt ggtgtgaaac tgcgtggaag cactggaagt ggaaagaaat aactggaagt 360
atgcaatagc aataacatgt catagagttg tgtgatttgg cgttcaccac ccacacctgc 420
tt 422

<210> 1653
<211> 357
<212> DNA

<213> Pinus radiata

<400> 1653
gnacgagctc gatctggcct taaggggtta cagaagaaga atttcgaaga tgggtagatc 60
ttcttgctat tcaaagcaag gtcatagccg tgggatttgg acccctatgg aggatatgat 120
tctctctgaa tacattcgaa ttcatggcag tgatggatgg aaaaatatcg ctaaacgagc 180
aggtcttaaa cgacgtggaa agggttgcag attacgttgg ttgaactatc ttcgccccga 240
cattaaacgt ggtaacattt ctcctgatga ggaggacctc attattaggt tgcatggcct 300
tcttggcaat cgatggtctt tgatagcagg acgactaccg ggtcgaacag acaacga 357

<210> 1654
<211> 306
<212> DNA
<213> Pinus radiata

<400> 1654
gcgcattgtt cagctgtgtc gcagaacacg gagcgaaagt cataatcgca gacgttgcag 60
agaaagctgg cagaaagctt gcagaatccc tttctccagc atcggcaact tatgtgcact 120
gtgatgtcag caaagaagaa gacgtgagcg cggctgtgga tctggctatg gataagtatg 180
gtcaactcga cattatgtat aacaacgctg gaactaacga cagctttctg gtgaagagcg 240
tggcagagta tgatatggag caattcgatc gagtgatgaa cgtaaacgtg aaaggagtga 300
tgcacg 306

<210> 1655
<211> 368
<212> DNA
<213> Pinus radiata

<400> 1655
cttcagtttg ccattgaaga ccaataaata attattgtga agcagcagcg ttttaatcag 60
agatccagca agaagaggac caggaaaaat catttgcaga acaagaagat aatccaagat 120
gtcaagcaca cgcagccctc agtgtgggtg cggagaaact tgcgcttgcg ccgattgcaa 180
gtgtggagtt gtgagtattg cgcctccatc cgaccaaaca agtgggggac atgcatattg 240
caagtgtgga gaacactgca gctgcaatcc atgtaactgt tcaaagattg acgagactgt 300
tagtgggaaa tccttctgta aatgtggaga gaattgcgcc tgtgaaacat gcacctgcag 360
cagagctg 368

<210> 1656
<211> 333
<212> DNA
<213> Pinus radiata

<400> 1656
ttgaattctt gtcttccccc cagctgaggc tctctgagac caaggtgaga ttcagccagt 60
agtaagctat agattgatag ttcagagaaa agactgaaag gcaaaaacta tatagacata 120
acaacggaga gagcagcaca ggaaccaggt tgcataatgg ctaggcctca aagatacaga 180
ggagtccgtc agaggcactg gggatcatgg gtctctgaaa tccgccatcc cttattgaag 240
accagaatat ggctaggaac atttgaaaca gcagaggatg cagcacgagc atatgatgaa 300
gctgcaagga tgatgtgtgg gccgagagct aga 333

<210> 1657
<211> 355
<212> DNA
<213> Pinus radiata

<400> 1657
gttccccgtc tcctccgtct gctaggcatt tctctgcgat tcttcttctt ctgctcgggg 60

tctctctggt gaaatcgtcc ccgcaggagg agggctgagg gcagggctcg gctcggctcg 120
gttcgtttcg gcaggagtta tctcagggtt tttctcttga ttttctgcgc cttcggactc 180
gggcttacag ttacagcatc tggaaaatgg cgtcacagga gagctcaaaa atgcaagagg 240
aagggagtgg gagacaagtg ccggaagggc ccattcactg tttgaacaac tgcggcttct 300
tcgggagcgc ggccaccatg aacttgtgct ccaagtgcta cagagagctt aacgc 355

<210> 1658
<211> 341
<212> DNA
<213> Pinus radiata

<400> 1658
ggggaatgat tcctggccga ggccattcga gcgccataca cattgcggcg gactgcggga 60
agtattgttt tcagtaattc ccttaattgg gtcccagaat acgttctcag atccgaaaac 120
ggttcagtcc atcggaggtt acagcgattc gaaggcctga aaccctaaa aatacctatc 180
cccctttgtc tttgaatggc ggagaactat ggcagcccgg atagcagccc ccggtcggag 240
aacgaatccg gcggcggtca catgggcggc agcgatttct ctgtgaaaga gcaggatcgg 300
ttcctgccta tagccaacgt ggggcgcata atgaagaagg c 341

<210> 1659
<211> 353
<212> DNA
<213> Pinus radiata

<400> 1659
gaaaaacaaa gcagaaagcc accatgtggt agaggaggtg ctgaggataa aggagcttct 60
tgatgattct tatcagcctc aggaagtctt gctagagtca ctgcagagtt tgtttaacat 120
gcatatttct gtggaggctt tgaaggagac tgatattggt agacaagtga atggactgcg 180
aaaacattct tctgctgaca ttcgaaagct agtaaaagag ctcataagga agtggaaaga 240
tcttgtcgat gagtgggtaa gcactgcaga tgaagttgca gctgctgcaa ttgttgatgg 300
agattctcca caaggtggtg gcagcagaat ttctcaacag agtattgtgc aga 353

<210> 1660
<211> 317
<212> DNA
<213> Pinus radiata

<400> 1660
caagagtaaa cccgaaggaa tagaagggga aggaggcatc ggcagcgttg ttcctcctcc 60
tctcctctcc tgcatttctc aaactcaaat acctctcctc tcacaatcat ggaaggcgga 120
gtcgtctttg aatctgtgca aaacccactg gatcgcctga acactggaaa tatggaccat 180
ggttgtgccc attacaggag acgatgtcgg attcgggccc cttgttgcaa tgagatctat 240
gattgtaggc actgtcacaa tgaagccatg agccatctaa aggacccctt gctgcgccat 300
gagctcccaa gatacaa 317

<210> 1661
<211> 340
<212> DNA
<213> Pinus radiata

<400> 1661
caatggcggc ccagactatc atcgctgcct ctatggcatc tcctctaaca ttatcaaatg 60
gccactatcc gtttcagtcc gagttcaagg ggtccgtggt tcgaatcccg cagagggcat 120
tttccttcgc gcctgcagcc cgggcgctga ccgtcgtcgc agaggccaag aaggccgttg 180
ccgtgctcaa agggaattca caggtcgagg gtgttgtcag tctctcgcag gaagacagcg 240
gtcccacaac agtgaaggtc cgtttgacag gactgactcc tgggaagcat ggctttcatc 300
tacatgagtt tggtgacaca accaatggct gcatatcaac 340

<210> 1662
<211> 563
<212> DNA
<213> Pinus radiata

<400> 1662
ttcggttcgt attcagggtt tcgggagctt gttgtgtggt gttctgcagg tcaggacatt 60
gtaggcctgg ttatacaaga tttcgaagca aactctcgga gcctcgaaga atcggcgcaa 120
atttcaacgg ccttataact atttgggaag cagtactctg gatttttctc ccggaacgga 180
tcggagtgtg cgaagcgtaa taatcgcctg gaatttgtct tctgcaagat aatattcaat 240
taatctattg tcgaaggaaa tttgagccgt ataagaggat aatcaaaaga agccggttga 300
tttctccggg attaaaggat ggatcaagaa aactggaaca tcggagctga tggcactggc 360
tgccaactcc agaagggcac actctttgcg ccaataactg cggctttttt ggcagttcgg 420
caacgagaaa cctgtgttcg aaatgttaca gggatctgat tatgaaggag gcccaagcct 480
catctgcaat ggccgccgtt gagaagtcat ttgccgcggg ttctccgatg gaggaggagg 540
cccctctttc caagccagat gtt 563

<210> 1663
<211> 572
<212> DNA
<213> Pinus radiata

<400> 1663
cagcaatggc ggcccagact atcatcgctg cctctatggc atctcctcta acattatcaa 60
atggccacta tccgtttcag tccgagttca aggggtccgt ggttcgaatc ccgcagaggg 120
cattttcctt cgcgcctgca gcccgggcgc tgacagtcgt cgcagaggcc aagaaggccg 180
ttgccgtgct caaaggaaat tcacaggtcg agggtgttgt caatctctcg caggaagaca 240
acggtcccac aacagtgaag gtccgtttga caggactgac tcctgggaag catggctttc 300
atctacatga gtttggtgac acaaccaatg gctgcatctc aacaggagca cattttaatc 360
caaaaaaatt gacacatggt gctcctgagg acgatgtacg ccatgcgggt gacctgggaa 420
acatagttgc gggttctgat ggagttgcag aggcaacaat tgttgataat cagattccat 480
tgagtggacc tgattcagtt attgggaggg cacttgttgt ccatgagtta aaggatgacc 540
tggggaaagg tgggcatgaa cttagcctga ca 572

<210> 1664
<211> 366
<212> DNA
<213> Pinus radiata

<400> 1664
atcgcttcgg cccgagcaat tttgcttctc tgctaaacga tgggaagagc gccttgctgt 60
gccaacggtg acagaagcaa gggagcctgg accaaggaag aggatgacag gcttacccaa 120
tatattcagg ctcatggaga aggatgctgg cgttctctcc ccaaggccgc aggtctgctt 180
cggtgtggaa aaagttgcag gctgagatgg ataaattatc ttcgccctga tctgaaacga 240
ggaggttttt ctgaagatga agacgatctt attctcaaac tgcacgccct cctcggaaat 300
aagtggtctc tgatagcggg tcgtttgcct ggtcgaactg gccaccaaaa tcaaaactac 360
tggact 366

<210> 1665
<211> 348
<212> DNA
<213> Pinus radiata

<400> 1665
gcatcttgct cgtgactgca ccaacaaccc agtttgtaat ttgtgcaata tatctggtca 60
tgtggccagg gagtgcccca aggctcgcat tttggatggt antaggggtg gaagatttat 120

tgacgatagg cgtggaagat ttaatgacat aatctgtagg acatgcaacg agccagggca 180
taccagtagg gagtgcactg gaattctcat ctgccacaac tgtggtggcc gtggacatgt 240
tgcatactaa tgcccctctg gtcgtgtgat gctgcgggac atgcgcaggc attgatgctg 300
caatttctac aacaccttga ctttttagat tatctgattt tgacaaat 348

<210> 1666
<211> 422
<212> DNA
<213> Pinus radiata

<400> 1666
agagagaagg gtgttccctg gactgaagaa gagcacaggc agtttttgat gggccttcgc 60
aagtacggca aaggcgactg gagaagtatt tctagaaact ttgttgtgtc aaggacacca 120
acccaagttg ccagccatgc tcaaaagtac tacattcggc ttggttcgga taataaaaac 180
aagagaagat ccagcataca tgatatcacc actgttcatg gtacagacag gatgccttct 240
cctttactgc acgtttctaa taggcagact aattccccct caacacaggc agaaatgaat 300
cattcaccat gtctgacata tccatctcag atttcacgag gacctctaat aaactctttg 360
ggacctcaaa tagatggtaa ccttctattt tcacctcact atcctctaaa tctgtatacc 420
ca 422

<210> 1667
<211> 467
<212> DNA
<213> Pinus radiata

<400> 1667
cttgttgtgt ggtgttctgc aggtcaggac attgtaggcc tggttataca agatttcgaa 60
gcaaactctc ggagcctcga agaatcggcg caaatttcaa cggccttata actatttggg 120
aagcagtact ctggattttt ctcccggaac ggatcggagt gtgcgaagcg taataatcgc 180
ctggaatttg tcttctgcaa gataatattc aattaatcta ttgtcgaagg aaatttgagc 240
cgtataagag gataatcaaa agaagccggt tgatttctcc gggattaaag gatggatcaa 300
gaaaactgga acatcggagc tgatggcact ggctgccaag ctccagaagg gcacactctt 360
tgcgccaata actgcggctt ttttggcagt tcggcaacga gaaacctgtg ttcgaaatgt 420
tacagggatc tgattatgaa ggaggcccaa gcctcatctg caatggc 467

<210> 1668
<211> 465
<212> DNA
<213> Pinus radiata

<400> 1668
tccagatgtt cgtggtagac atgaaatttt agagctttat ttgcaaaata agcctctggc 60
tgaagatgtg aatgtgaaag cccttgctcg tggtacacct ggtttcaatg gtgcagattt 120
ggcaaacctt gtcaacattg cggccatcaa ggcagcagtt gatggcagtg agaagttgtc 180
tgccaaacat ctggaatttg cgaaggatag aataatgatg ggaacagaac ggaagtcgat 240
gttcctatca gaggagtcga aaaagctcac tgcataccat gagagtggac atgcagttgt 300
tgcatttaat actgtaggtg caaaccctat acacaaggct acaatcactc ctcgagggag 360
tgctcttggg atggttacac agctgcctga caaggatgaa acatctgtta ataaaacgca 420
attattagca cgacttgatg tttgtatggg cggacgagtt gcaga 465

<210> 1669
<211> 421
<212> DNA
<213> Pinus radiata

<400> 1669
cgaaccatgg agtctaaggg acaggctaat ccatctgttg cttctgtttg taatctcagc 60

aagaatggag agcgacgatt ggaagggaaa gttgttatag taacgggcgg ggcagcgggc 120
ataggagaag ccattgttca gctgttcgca aagcacggag cgaaagtcat aatcgcagac 180
gttgcagaga aagctggcag aaagcttgca gaatcccttt ctccagcatc ggcaacttat 240
gtgcactgtg atgtcagcaa agaagaagac gtgagcgcgg ctgtggatct ggctatggat 300
aagtatggtc aactcgacat tatgtataac aacgctggaa ctaacgacag ctttctggtg 360
aagagcgtgg cagagtatga tatggagcaa ttcgatcgag tgatgaacgt aaacgtgaaa 420
g 421

<210> 1670
<211> 445
<212> DNA
<213> Pinus radiata

<400> 1670
ccatatcgaa acattcacag ggggagattg atcaaacaca aataccgtaa aatcgcagcg 60
aaaatccaaa attccaccat ggggactgtg gcggaggatg gcagcaaggg ttacaaggcc 120
gtaaatcccc atcccaaaaa gggcgtcgcc tcgtggctgg tggacatggt ggagaaactg 180
gtggttgaaa cttctgcgtt gtatagttcg aagaagcctc tgcattttct tttggggaac 240
ttcgctccag tctcggaaac tgcccccaaa tcgcacctgc ctgttgttgg gcaacttcct 300
agttgcttgg atggagagtt cgtgcgcgtt ggtcccaatc cgaaattcgc accggtagct 360
ggctatcact ggtttgatgg agatggaatg atccatggtc tcagaattaa agatggtaaa 420
gccacatatg tgtcacgtta tgtga 445

<210> 1671
<211> 460
<212> DNA
<213> Pinus radiata

<400> 1671
cagacttttg ctccgaactg ttctgctgaa acaaaatcca gtattgagct aggtttagaa 60
tcgggtttgc tggtcatctg ggagaggcga tccattcagc ttcgcaggcc cccgaagatg 120
gcgttcgccg gcacaaccca gaagtgcaag gcatgtgaaa agacggtcta tttggttgat 180
caattgacag ctgataattc tgtttttcac aaatcctgtt tccgctgcca tcactgcaat 240
ggaactttaa agcttagcaa ctattcgtcg tttgagggag ttctatattg caaacctcat 300
tttgaccagc tgtttaagag aacaggaagt ttggataaaa gttttgaagc cattcctaga 360
gcatcaagaa atgacaagat gcatgagaat gagaacagga cacctagtag ggtatcagca 420
ttgttttccg gtacacagga taaatgtgtt gcatgtggga 460

<210> 1672
<211> 301
<212> DNA
<213> Pinus radiata

<400> 1672
ttgttggtgg gagacggaga acattgcttt gttaaattgg tcagcgggtt tgcagctgaa 60
tccgaggctg ttgcatcctt aaaagtgttt tacctttgtg gtttggacct tagggtttga 120
actctttaaa gaaactctca aaatcagcct taaacaataa catacaagat gtccattcta 180
ccccaaagcg attccctcat aataagggaa gtttgggcag ataatctgga ggaggagttt 240
gctttgattc gggaaattgt ggacgattac ccttatattg ctatggatac tgagtttcct 300
g 301

<210> 1673
<211> 321
<212> DNA
<213> Pinus radiata

<400> 1673

aacacaaata ccgtaaaatt gcagcgaaaa tccaaaattc caccatgggg actgtggcgg 60
aagatggcag caagggttac aaggccgtaa atccccatcc caaaaagggc gtcgcctcgt 120
ggctggtgga catggtggag aaactggtgg ttgaaacttc tgcgttgtat agttcgaaga 180
agcctctgca ttttcttttg gggaacttcg ctccagtctc ggaaactgcc cccaaatcgc 240
acctgcctgt tgttgggcaa cttcctagtt gcttggatgg agagttcgtg cgcgttggtc 300
ccaatccgaa attcgcaccg g 321

<210> 1674
<211> 380
<212> DNA
<213> Pinus radiata

<400> 1674
cctgttcgat atcactgctg aacctatcag ttgtccatta ccttcgcctg ccttgcctgt 60
attgtcatca cagtcggcct ctgatcaaga agaagccgaa tcaggtgata attctgcaaa 120
ttctgcagat gtagaaactc ttcttcctca ggttgatgaa acagcttctg ctgatctgac 180
agtgttccca ggttttgtta ccccttatgt accatacggg ttccccatat ggcacacttt 240
tagacccaca ataactcaaa cttccaatgt ttataagcca acagctgtaa tgccaactgc 300
tccaataaaa atggacgaat gcacagggtt atcccagtta agcctcggcg gtgttgcagc 360
ggcttctgca atgaaaccct 380

<210> 1675
<211> 350
<212> DNA
<213> Pinus radiata

<400> 1675
cccagctgag gctctctgag accaaggtga gattcagcca gtagtaagct atagattgat 60
agttcagaga aaagactgaa aggcaaaaac tatatagaca taacaacgga gagagcagca 120
caggaaccag gttgcataat ggctaggcct caaagataca gaggagtccg tcagaggcac 180
tggggatcat gggtctctga aatccgccat ccccttattga agaccagaat atggctagga 240
acatttgaaa cagcagagga tgcagcacga gcatatgatg aagctgcaag gatgatgtgt 300
gggccgagag ctagaaccaa cttcccattc aatcccatgc acctccatct 350

<210> 1676
<211> 262
<212> DNA
<213> Pinus radiata

<400> 1676
aagtgagctt catatctaac caataataac acctgtatag cttcacagca acagggcacc 60
atgggccgag ctcttgctgt gataaaatgg gagtaaaaga aaggcccctg gactctaacg 120
aagataaaat actggtcgac tacattacca aacatggcca tggcaactgg cgtgcactgc 180
ccaagcaagc agggctcctg cgatgtggaa agaagttgtc gcctgcgggg gacgaattac 240
ctgaaacccg acatcaaaag ag 262

<210> 1677
<211> 357
<212> DNA
<213> Pinus radiata

<400> 1677
cgacaatggc gcggacggga ttcgaaaccg cgacgctcgg cctcgaacgt accgaggcgt 60
tcgccgccgg agctggggga agtgggtgtc cgagattcgc gagcctggga agagaaagcg 120
catatggttg ggatccttcc aaacggcaga gatggcggct cgagcttacg acgtggctgc 180
gctcagcctg aagggaagat ctgctttgcc caatttcccg gattccgtcc acacgctgcc 240
gcgcccctct tctctgaatc ccagagatat ccagcttggc ggctgcccag gcagccgcga 300

attaacgcag ccgatggtct ctaccgatat ttcatcctgc aaccgcaaga tcaaaat 357

<210> 1678
<211> 354
<212> DNA
<213> Pinus radiata

<400> 1678
cacgaggcag tatctaccaa tgtcggggag agacaggaag cttgttgtgc ttggtattcc 60
ttgggatgtc gacactgaag gtttacagga ttatatgagc aagtttggag aactggatga 120
tgtgattgtt atgcgggatc gtgcaactgg tcgttctcgt ggatttggtt atgccacatt 180
ttcttcagtt gaagatgcta agaaagcact tgacagtgaa catgttctaa atggtcgtac 240
actggaagta aaggtggcta cacccaagga ggagatgaag gctccttcta agaagattac 300
ccggatattt gnggcaaaga attccccctt ctgttacaga ggatgcattc cgaa 354

<210> 1679
<211> 174
<212> DNA
<213> Pinus radiata

<400> 1679
gtccgggcgg tggagagcat cagccttgga gttacagacc aggaaaatac aagatgggta 60
gatctccttg ctgctccaaa gaggggctca accgcggggc ctggaccaaa agggaggata 120
tgattctctc cgaatacgtt cgaattcatg gcgatggtgt atggaaaaat gttg 174

<210> 1680
<211> 221
<212> DNA
<213> Pinus radiata

<400> 1680
gttcattaag catggagcca aagtcataat cgcagacgtt gcggagaaag ttggcaggaa 60
gcttgaggaa tcactttctc ccgctgtggc aacctacgtg cactgcgatg tgagcaaaga 120
agaagatgtg agcgcggcgg tggatgtggc catggataag tatggccaac tggacattat 180
gtataacaac gctggaacta atgacagatt tttggtgaag a 221

<210> 1681
<211> 363
<212> DNA
<213> Pinus radiata

<400> 1681
gcttaggcgc attaaggagc aaaggaaggg aaaatatcac agcgacacag caaaacagag 60
acagtcacaa gaacaagccc gaaggaaaaa gatgtcccgg gcacaggatg gtatactgaa 120
gtacatgctg aaaatgatgg aagtttgcaa agcacaaggt tttgtatatg gtatcattcc 180
tgaaaaaggg aagcctgtaa gtggagcctc ggacaatctt aaagcatggt ggaaggagaa 240
ggtcagattt gataggaatg gccctgctgc aatcaccaaa tatcaagcag aacatgcaac 300
acctggagca aatgagagta acatggttgt ggctcctacc cctcatactc ttcaggaact 360
tca 363

<210> 1682
<211> 374
<212> DNA
<213> Pinus radiata

<400> 1682
ctgatttgaa gtgctcattc atgaacaatc cgagcagcag ttatgcataa aatgttgatt 60

gcagggctcc gttattgcga gcaactaaag ggcgatggtg ttacaatcaa atatcgagaa 120
cgagaatgaa tctgaagcct ctcggaatgc tacaaattgg taatttggct cctgttagaa 180
gagcattctc atcacctaga gcctcagcag atgaagaagc tgctgcaaaa gcagctgctg 240
ctgtagcaga gacaggagcc ccaaccatat ttgacaagat cataaagaag gaaattccag 300
caactattgt ttatgaggat gcaaaagtgt tggcatttcg agatattaat ccacaggcac 360
cagtccatat attg 374

<210> 1683
<211> 407
<212> DNA
<213> Pinus radiata

<400> 1683
gccgtggctg ttcccaggag aggagagcct cagctgtctc gatctggcct taaggggtta 60
cagaagaaga atttcgaaga tgggtagatc ttcttgctat tcaaagcaag gtcatagccg 120
tgggatttgg acccctatgg aggatatgat tctctctgaa tacattcgaa ttcatggcag 180
tgatggatgg aaaaatatcg ctaaacgagc aggtaaaatt ctaatagcaa tttttattgc 240
aaacgtaata ctcattgaga ggttaactaa gcgggcagtt tttgttctgc aggtcttaaa 300
cgacgtggaa agggttgcag attacgttgg ttgaactatc ttcgccccga cattaaacgt 360
ggtaacattt ctcctgatga ggaggacctc attattaggt tgcatgg 407

<210> 1684
<211> 361
<212> DNA
<213> Pinus radiata

<400> 1684
gttccagacc ttttgcatct tcattattct tccgcctgtg aaaagatggg gagatctccg 60
tgctgtgaga aggctcatac taacaaaggg gcctggacta aacaagaaga tgaccgcctt 120
atcgctcaca ttcgagccca cggcgaaggg ggctggcgtt ctcttcccaa ggccgcaggg 180
ctgctgagat gcggcaagag ctgcagactg cgatggataa actacctgcg tcccgatctg 240
aagcgtggaa gcttcacgga agaagaagac gaactcatca tcaaactcca ctccttcgtt 300
ggcaacaagt ggtctttaat tgcagggaga ttgcccggac ggacggacaa cgagataaag 360
a 361

<210> 1685
<211> 340
<212> DNA
<213> Pinus radiata

<400> 1685
caagagtaaa cccgaaggaa tagaagggga aggaggcatc ggcagcgttg ttcctcctcc 60
tctcctctcc tgcatttctc aaactcaaat acctctcctc tcacaatcat ggaaggcgga 120
gtcgtctttg aatctgtgca aaacccactg gatcgcctga acactggaaa tatggaccat 180
ggttgtgccc attacaggag acgatgtcgg attcgggccc cttgttgcaa tgagatctat 240
gattgtaggc actgtcacaa tgaagccatg agccatctaa aggacccctt gctgcgccat 300
gagctcccaa aatacaaagt tgaacgggtt atttggtctc 340

<210> 1686
<211> 332
<212> DNA
<213> Pinus radiata

<400> 1686
ggctcttccc ggcagaccta gtaagccgac tactgtaaat ttattctttt agggttacag 60
aagaagaaaa tacaagatgg gcagatctcc ttgctgctca aaagaagggc tcaaccgtgg 120
ggcctggacc aaaagggagg atatgattct ctccgaatac attcgaattc atggcgatgg 180

cggatggaga aatatgccca aaagagcagg tcttaaacgg tgtggaaaga gctgcagatt 240
acgatggctg aactatcttc gccccgacat taaacgtgga aacatttccc ctgatgagga 300
ggaactcata attcggctcc atcgccttct tg 332

<210> 1687
<211> 347
<212> DNA
<213> Pinus radiata

<400> 1687
gattgatcaa acacaaatac cgtaaaattg cagcgaaaat ccaaaattcc accatgggga 60
ctgtggcgga agatggcagc aagggttaca aggccgtaaa tccccatccc aaaaagggcg 120
tcgcctcgtg gctggtggac atggtggaga aactggtggt tgaaacttct gcgttgtata 180
gttcgaagaa gcctctgcat tttcttttgg ggaacttcgc tccagtctcg gaaactgccc 240
ccaaatcgca cctgcctgtt gttgggcaac ttcctagttg cttggatgga gagttcgtgc 300
gccgttggtc ccaatccgaa attcgcaccg gtagctggct atcactg 347

<210> 1688
<211> 354
<212> DNA
<213> Pinus radiata

<400> 1688
cgataggcgt ggaagattta atgacataat ctgtaggaca tgcaacgagc cagggcatac 60
cagtagggag tgcactggaa ttctcatctg ccacaactgt ggtggccgtg gacatgttgc 120
atacgaatgc ccctctggtc gtgtgatgct gcgggacatg cgcaggcatt gatgctgcag 180
tttctacacc accttgactt tttagattat ctgattttga caaatctatt ttgaatttgg 240
aagttctttt tctgagtagt tagatcagta gacctgtcgt atcagttatt atacagtttt 300
cttatactag tcctttactt caagactggc tgatatactt ctattttcat atga 354

<210> 1689
<211> 348
<212> DNA
<213> Pinus radiata

<400> 1689
ggagattcct ctctgcaaaa tgcgctggac cttgctcatg gttatctgag ccagattcca 60
tcatatggtc atcgggaagt tctagtcttg tattcagcac taagcacttg tgatccaggg 120
gatatcatgg aaagtataaa gaaatgcaag aattcgaaaa tgcgatgctc agtggttgga 180
ttatctgcag aaatttatat ttgcaaacac ctctgtgagg agacgggagg attctattcc 240
gtggcacttg atgagtcaca tttcaaggac cttctgcttg aacattgccc tccaccacca 300
gccatagcag agtttgcagt tgctagcttg gtcaagatgg gatttcct 348

<210> 1690
<211> 349
<212> DNA
<213> Pinus radiata

<400> 1690
tgcataccat cattgtaatg gaggtgaaag gaataggagt gggattctta ttaagcaatg 60
gaaggttacg ctgcgaataa cgatgcagaa cttctgagca aaacccttca agtggaacag 120
aagttgttct atttcgatct caaggaaaac ccccgaggtc aataccttaa aatctctgag 180
aagacctccg gctcacggtc tacaataatt gtgcccattg gtggagttgc atggttcctc 240
gatctcttta attattatgt cgacggagat gacgaggaag ttttgagcaa ggaattgcag 300
ctggatgcca aggtatttta tttcgatgtt ggggtgaata aaaggggtc 349

<210> 1691

<211> 339
<212> DNA
<213> Pinus radiata

<400> 1691
ctgaagtgcc gtcgattgtt cgggaggata gcgttttcga agttcgttgt tgagttatct 60
cgcgagactg tagaatttta gggttgtttt ccacaaaccg acttttcccg acttcaaatc 120
ttgatattga agtgacatgg ccggcgagaa aagaaagatt aatagaatag ctaacgcttc 180
ggccaggcag gtcaccttcg cgaagaggcg gagggggctg ttcaaaaaag ctcaggagct 240
atcgatttta tgcgaagccg atgtagccct cctcgttttt tcttcaactg gaaagctgta 300
ccagtactcc agctccagca tgaaaatgat attggacca 339

<210> 1692
<211> 380
<212> DNA
<213> Pinus radiata

<400> 1692
gaaaccatga gggtcttgcc acaaggtttg ttgagccaca acctgaatgg tcagtatttc 60
gtgaggcgag ctttggacat ggggaactta gagttgccaa tgcaacacat gcacattgga 120
gctggcatcg taatgatgat gatgagccag ttaaatctga tgaagtttgg atcaataatc 180
ttagccaatc aagagaatgt atagaaagta ccgactacag tggaaggaaa atactaattg 240
caccttgagt atatgcttgg agggagaagt gatctaactg taattgccaa ggcaaaacac 300
tgagtgtgag ctcatgcacg gcaatgaatt tatggttcag tgtttagttg tatggaagta 360
tattattcat tagacatgca 380

<210> 1693
<211> 442
<212> DNA
<213> Pinus radiata

<400> 1693
ggatatcatc agctgtccag tttgtcctaa gagactacag aagaagaata tagaagatgg 60
gtagatcccc ttgcccccca aaagaagcgc ttaaccgtgg ggcttggaca ggcatggagg 120
atacgattct caccgagtac attcgagttc atggcagtgg tggctggaaa gatatctcca 180
aaagagcagg tcttaagagg tgtgcaaaga gttgcagatt gcgttggctg aactatcttc 240
gtcccgatat taaacgtggt aacatttctc ccgaggaaga agagctcatt attcggttgc 300
atcgccttct tggaaatcgg tggtctctga tagcaggacg actgcctggt cgaacagaca 360
acgaaatcaa gaattactgg aacactcata tgagcaagaa gccatggctg tcaatggacg 420
aatctcagtc caatacttcg ca 442

<210> 1694
<211> 351
<212> DNA
<213> Pinus radiata

<400> 1694
tttttttttt tttttcctta ctcccacctt tttgttcgtc tgcgcatggt tttgtatctg 60
atgtcaaaat tgtctgcaac gcatgctgat gttgattccc atgcccgact acaacatctg 120
cacaaatagg aagttaagaa taaagcgaac aataaaagtg ccagccatta gcagtaaatt 180
ggcagatatc cctcccgatg attattcgtg gaggaagtat ggacaaaagc caatcaaggg 240
ctccccacat ccaaggggct attataagtg cagcagcatg agaggttgtc ctgcccggaa 300
acatgtggag cggtgtccag atgaaccttc catgcttatt gtgacttatg a 351

<210> 1695
<211> 304
<212> DNA

<213> Pinus radiata

<400> 1695
caaggccgta aatccccatc ccaaaaaggg cgtcccctcg tggctggtgg acatggtgga 60
gaaactggtg gttgaaactt ctgcgttgta tagttccaag aagcctctgc attttctttt 120
ggggaacttc gctccagtct cggaaactgc ccccaaatcg cacctgcctg ttgttgggca 180
acttcctagt tgcttggatg gagagttcgt gcgcgttggt cccaatccga aattcgcacc 240
ggtagctggc tatcactggt ttgatggaga tggaatgatc catggtctca gaattaaaga 300
tggt 304

<210> 1696
<211> 371
<212> DNA
<213> Pinus radiata

<400> 1696
gcgtggatgt acaacgaata tggatccata gaggtcctgc actttgggga tttccctgtt 60
ccaaagcctg ggttaggcca gctcttaatt cgagtccggg ccgctgctct taatcctgcc 120
gactttaaga gacggaaagg cttattaaga aacgcggatt ccgattttcc gactgtgcca 180
ggctgtgata tgtcaggagt ggtggtggaa attggtgatg gtgtctccaa gttcaaggcc 240
ggtgacgaga tatacagcaa catccagaat ttcgcagcag ggaggccaaa gcagtgcggg 300
actctcgccc agtacacagt ggtggaggaa ttcctggtag cgccgaagcc cagtaattta 360
tcatttgagg a 371

<210> 1697
<211> 523
<212> DNA
<213> Pinus radiata

<400> 1697
ccttcatgga tatgttggag ttgattcgcc accatttgct ggaagtggag gacaatatag 60
atatagatat tgatattgag ggaacttcgc cgttgttctt cacccccact gccattgaga 120
gtggcgatta tattaatatt gatgatcatg acgatgatac ccgagcaaat gccagagcga 180
ccagggcctc atgccaaaat atcgtcagca gaacaacatt aaaagagaac gcgaatgaat 240
ttacacaaca gatccattct tcatcttctc caagatgctc agttatgaaa ggagcagagg 300
cgtttcaggt aaagcaacaa ccacgggagc gggagaatgg aaagaagaga gagacaagtg 360
ccaggaatta cagaggagtg aggcggcggc cgtggggaaa attcacagca gaaatcagag 420
attccgccgc gaagggtgct cgggtttggc ttggaacttt caacaccgtc gaagaggctg 480
ctcatgcata tgaccgcgct gcctacagat tccgtggagc tcg 523

<210> 1698
<211> 471
<212> DNA
<213> Pinus radiata

<400> 1698
cgcgatagcc gagagcaccc ttatctcctc cactctgttt catacatgca acaagctctg 60
gcagcagcaa tggcggccca gactatcatc gctgcctcta tggcatctcc tctaacatta 120
tcaaatggcc actatccgtt tcagtccgag ttcaaggggt ccgtggttcg aatcccgcag 180
agggcatttt ccttcgcgcc tgcagcccgg gcgctgaccg tcgtcgcaga ggccaagaag 240
gccgttgccg tgctcaaagg gaattcacag gtcgagggtg ttgtcagtct ctcgcaggaa 300
gacagcggtc ccacaacagt gaaggtccgt ttgacaggac tgactcctgg gaagcatggc 360
tttcatctac atgagtttgg tgacacaacc aatggctgca tatcaacagg agcacatttt 420
aatccaaaaa aattgacaca tggtgctcct gaggatgatg tacgccatgc g 471

<210> 1699
<211> 483

<212> DNA
<213> Pinus radiata

<400> 1699
cttcctggtg ttgttgctgt gatttctctg ccattctgtg ttgggtttat ggttttagct 60
tcactacaag cctttagcaa gcctcacaaa taagctttgc agtaggatgt ctcctccccc 120
gtcatattcc atgtttccca attcaggaat gggcttaaat ccctcagtga catcttcaga 180
accctctagt caggtctccg gatcgatccc ccatcaatat tcaggctccg aggaagaccc 240
taaactgacg atcgatgaaa gaaagcagaa gagaatgctt tctaacagag aatctgcaag 300
gaggtccagg atgagaaagc aacagcattt ggatgaattg agagccgaag cagctcatct 360
cagagcagag aacagtcata tgctaacaaa attcaacatt gcttcacaga aatacatgca 420
gctggaagaa gagaattctc ttctgaggtc ctatgccatg gatttaagcc tcaagctgca 480
gtc 483

<210> 1700
<211> 442
<212> DNA
<213> Pinus radiata

<400> 1700
ttttttttga atagaaaaaa tataattagg tacttttcct tagaatgttg cagataattg 60
catttacttt cctaagaagc cattgtctaa ctttagacca tgatatgcag ttactgcaaa 120
gatcttgaca aacctaacca atcacttata cctactgtca agtaaatatg taacaaatat 180
caattttcaa tcaaaggtgc cattaagagt tttaaccaac aaggtgaagg caatgaatct 240
ctagatctca ctaacctaat tctgctctac ctaccaagct agcagtctgg cttgaaatta 300
gcagaacttc caatggttat tacaatttac acatgtcaca aatgtagtca taggttcatc 360
tgcacttctt gtttgcaact gatagtaagt acacttccgc tggccacatt taccacactt 420
gaattggtct gttgtagctt ta 442

<210> 1701
<211> 316
<212> DNA
<213> Pinus radiata

<400> 1701
ctaaattcat atgctggaca tacgtgatgt catggcaggt gttcttgctg taaagaggaa 60
aagtttggcc aaagatatct atttcctaca gaatgcagaa ggttcaggtc tggctccatt 120
tgactgttgg ctatgcttgc gagggatcaa aacaatggct ttgcgcattg agaaacaaca 180
ggagaatgca aggaaaattg cagaattttt gtcatctcat cctctgattg agaaagtata 240
ttatgctggc cttcctagcc acccaggcca caatttacat tttttgcagg caaaaggagg 300
aggttcagtt cttagc 316

<210> 1702
<211> 329
<212> DNA
<213> Pinus radiata

<400> 1702
ataatgtcat attttatatc cagagacttg aactatttgt atgttgtaat tcatattggt 60
tgacatgatt gatatgtaca tatgttacat ggtattagca tgaggatgtt gatgtttgac 120
cttatttaag tgttcgtagg ttgtaaaaaa aaaaaaaaaa aactcgagac tagttctcct 180
cgtgccgaat tcggcacgag ggaacagctg aggaagagca agaagaggtg ttttgcgtgt 240
aacaggcggg tggggctgac gggctttaag tgccgctgtg gtgacctttt ctgcgctcag 300
cacaggtact ctgatatgca tgactgctc 329

<210> 1703
<211> 325

<212> DNA
<213> Pinus radiata

<400> 1703
ctcgtgccct ggtgcaaaga ttgttataag aggcaagggt tctgtcaagg aaggtagatt 60
acagcaaaaa cgtgatctga aacctgatcc atccgagaac gaggacttgc atgttttggt 120
tgaggcggag acacaggatg ctttggaaaa agctgccggc atggtggaga anctgcttat 180
gcctgttgac gagggtttga atgagcacaa gcgggcgcag ttgagagagc ttgcggcact 240
taatgggaca atacgggatg atgaattctg caggctttgt ggtgaaccaa gtcataggca 300
atatgcttgc cctacaaggc ttata 325

<210> 1704
<211> 453
<212> DNA
<213> Pinus radiata

<400> 1704
cttagcgtct atagaagagc agggactaat tccatctttc tccatttcta tttctcttcc 60
caatcaaaac catggcgtct aacggacagc ttaatgcagg cactggctgt gttggtgatc 120
tgaccaatgt tggagatcga cgattggagg ggaaggttgc aatagtaacg ggcggggcag 180
cgggcatagg agaagccatt gttcagttgt tcattaagca tggagccaaa gtcataatcg 240
ccgacgttgc ggagaaagct ggcagaaagc ttgagcaatc cctttcaccc gctgtggcaa 300
cttacgtgca ctgcgatgtg agcaaagaag aggatgtaag cgcagcagtg gatgtggcca 360
tcgacaagta tggtcaactg gacattatgt ataacaacgc tggaactaac gacagcgttt 420
tggtgaagag cgtagcagag tatgatatgg agt 453

<210> 1705
<211> 242
<212> DNA
<213> Pinus radiata

<400> 1705
gaaaaggtca attatcctgt gttgctacgg aaatctaaat attcaaggtt atggtatatg 60
ccagataaga ttttctttac tccaaaagct gtcatcaaac tggattttca ctgtcctgaa 120
tcaaactgtt caccagaagc agtacttcta acttgtattt ttactgcatt attggtggat 180
tatttaaatg aatacggtga ctataagtgg atacagtcat aagatgagaa ttttactgga 240
ga 242

<210> 1706
<211> 358
<212> DNA
<213> Pinus radiata

<400> 1706
gttttgggtt tctgttttta accttggaag gttcaatttt acagtttcta cgggaattct 60
catattcaat ctgtttggca gattgaacta aagatttttg tccgggtgat ttttggatta 120
aattcaaggt cgacgaacgt gaggtgctag ggcttttaga gtttggatgg aacccatgga 180
catcgttggc aagtccaagg atgacgtctc gcttcccaaa gcaaccatgt ttaaaattat 240
aaaagagatg ctgcctccag atgttcgtgt tgcaagagat gctcaggact tactggtcga 300
gtgttgtgtg gagtttatca atctaatatc ttcagaatcc aatgaagttt gtggcaga 358

<210> 1707
<211> 334
<212> DNA
<213> Pinus radiata

<400> 1707

cgtttgcttg ccgtgaaaga aatcgaactt ccggcgcttg ggtgcgagaa atatttgcaa 60
atcgaacttc cggcttgggt gcaagaagct tttgcgtttt cggtttcaga ttaaagcaat 120
atggagtcag aggaagacaa aatatctcca gagaacaaga aaaggagatt aaaaacccca 180
cagcaggtcg aaggtctaga gagcttttat gctgaacata agtatccttc ggaagctatg 240
aaatcacagt tatcagaaga actgggatta acagagaagc aggtacaagg atggttctgt 300
cacaggaggc ttaaggataa aaggctcatg aagg 334

<210> 1708
<211> 288
<212> DNA
<213> Pinus radiata

<400> 1708
gcatcggcag cgttgttcct cctcctctcc tctcctgcat ttctcaaact caaatacctc 60
tcctctcaca atcatggaag gcggagtcgt ctttgaatct gtgcaaaacc cactggatcg 120
cctgaacact ggaaatatgg accatggttg tgcccattac aggagacgat gtcggattcg 180
ggccccttgt tgcaatgaga tctatgattg taggcactgt cacaatgaag ccatgagcca 240
tctaaaggac cccttgctgc gccatgagct cccaagatca aaagttga 288

<210> 1709
<211> 406
<212> DNA
<213> Pinus radiata

<400> 1709
gttccccgtc tcctccgtct gctaggcatt tctctgcgat tcttcttctt ctgctcgggg 60
tctctctggt gaaatcgtcc ccgcaggagg agggctgagg gcagggctcg gctcggctcg 120
gttcgtttcg gcaggagtta tctcagggtt tttctcttgc ttttctgcgc cttcggactc 180
gggcttacag ttacagcatc tggaaaatgg cgtcacagga gagctcaaaa atgcaagagg 240
aagggagtgg gagacaagtg ccggaagggc ccattcactg tttgaacaac tgcggcttct 300
tcgggagcgc ggccaccatg aacttgtgct ccaagtgcta cagagagctt aacgccaaac 360
caccttcttt ttcttctcac ttgaaacctc agcaacctac gcttga 406

<210> 1710
<211> 434
<212> DNA
<213> Pinus radiata

<400> 1710
ccctcttcat catcggcaaa ctcattatct cattcatcat ttggtggaac ctggccacaa 60
cctagtgtac caacattgca tcttcccggt ggcagtcttc aagttggtct tcaagctagt 120
cgcctccgag catcacttaa tgccagagat gtacctcttg aggaattgac cttagattcg 180
gattgtgaag ggcaacttat aaatgatttt gcttctcttt caggatctgg aaacaccttg 240
atgaggtctg gaaaatacaa gagtcatggc tgtagtattg ctccagttaa tcttgaggat 300
ctatttgctt ctgagatgtc tcctagggga ccgtgccttg aaccttccgt gttttctcaa 360
ataagttctc aaattcagtc acataaggca gctcaagttc agcctcaggt gcaaacatca 420
attagtaatc agat 434

<210> 1711
<211> 387
<212> DNA
<213> Pinus radiata

<400> 1711
tttacttaca caccacctgg aaatgaagat cgtcacttgc tattcgttga tgagttacgt 60
ggtcgcttag tgactcttct aggggacgt gctgcagagg aagtggtata ctcaggtcgt 120
gtttccactg gtgcacttga tgatataaag cgtgcaacag atatggcata caaagctgtc 180

gctgaatatg gtcttaacaa gtccataggt ccaatttcat tggcgacttt gtctggtggc 240
ggtcttgatg agtctggagg agcaatgcca tgggccaagg atcagggaca tatggtagac 300
cttgttcaaa gagaggtgaa aattttgcta caatcggctt tgacaatggc actccttgtc 360
atacgctcta atcccactgt acttgag 387

<210> 1712
<211> 440
<212> DNA
<213> Pinus radiata

<400> 1712
ctccttagcg tctatagaag agcaaggact aattccatct ttctccattt ctatttctct 60
tcccaatcaa aaccatggcg tctaacggac agcttaatgc aggcactggc tgtgttggtg 120
atctgaccaa tgttggagat cgacgattgc aggggaaggt tgcaatagta accggcgggg 180
cagcgggcat aggagaagcc attgttcagt tgttcattaa gcatggagcc aaagtcataa 240
tcgccgacgt tgcggagaaa gctggcagaa agcttgagca atccctttca cccgctgtgg 300
caacttacgt gcactgcgat gtgagcaaag aagaagatgt aagcgcagca gtggatgtgg 360
ccatcgaaaa gtatggtcaa ctggacatta tgtataacaa cgctggaact aacgacagct 420
ttttggtgaa gagcgtagaa 440

<210> 1713
<211> 446
<212> DNA
<213> Pinus radiata

<400> 1713
ggctcttccc ggcagaccta gtaagccgac tactgtaaat ttattctttt agggttacag 60
aagaagaaaa tacaagatgg gcagatctcc ttgctgctca aaagaagggc tcaaccgtgg 120
ggcctggacc aaaagggagg atatgattct ctccgaatac attcgaattc atggcgatgg 180
cggatggaga aatatgccca aaagagcagg tcttaaacgg tgtggaaaga gctgcagatt 240
acgatggctg aactatcttc gccccgacat taaacgtgga aacatttccc ctgatgagga 300
ggaactcata attcggctcc ntcgccttct tggcaatcga tggtcgctta tagcaggaag 360
attaccaggt cgaacagaca acgaaatcaa gaactactgg aacactcata tgagcaagaa 420
gctgcttcca ttgaacgaat ctcaac 446

<210> 1714
<211> 519
<212> DNA
<213> Pinus radiata

<400> 1714
attcatttcc gtgtaagttg caacgcctca ttgtttcctc aacctagtga gtaacattcg 60
tgaattcgtt atgcaagtag cttgcggaag ggcacttcta tcatgttatt cttattccga 120
gctactgtca gctatatgat ggacctgtgt tttcatcact ggctcacttc acctgtttga 180
gtatctgcca tttttggatg tttgtgtaag cttggctaaa taccagagac acaaagaaac 240
cgtcctgtag ccggagttat cgaaactatt tacaatgcca cgggtgaaat ttatttccag 300
gaacttcatg gacatggtgg cagcattacc ggctgcaaag ttagatcggc tttatgatag 360
tcatttcatt tgcgaagcgg ttctgaggtc tctgactcct gtgccaaaga aatatgtatt 420
gcaactatta tatattgacg ttgcggtgcc tgccaaatca ctggaggaat gggttctttc 480
agatggcctg tctaagcaca aagcagcaat tgataggtt 519

<210> 1715
<211> 162
<212> DNA
<213> Pinus radiata

<400> 1715

cggcccgagc aattttgctt ctctgctaaa cgatgggaag agcgccttgc tgtgccaacg 60
gtgacagaag caagggagcc tggaccaagg aagaggatga caggcttacc caatatattc 120
aggctcatgg agaaggatgc tggcgttctc tccccaaggg cc 162

<210> 1716
<211> 481
<212> DNA
<213> Pinus radiata

<400> 1716
gttacagtag tgcgtacaaa attccagtga cattgacttg caatctactt ttatggagta 60
ggtagggctc cgtgaaattg cgcatgtcat gaatgtgctc gtctgtaagt ggctgcttta 120
cgccggcgaa ggttcggacc ctgtggtggt ggtgaattga ctgtaagagg ccgccgatct 180
cgatcgaagg tgtacagaga tcattaatgg cgatgccgat gccgttgctt gtgaattgct 240
ctggctgtca gacgccactg cagctaccgc cgggggcgaa gtcgatacgc tgtgctctgt 300
gtcaagcggt cactcatgta gcggaacatc acggcgatat tccgcctcga ggttaccgcc 360
accagcagcc attggctcct cccgcggtca gtccccagca ctattcgccc gctccgcctt 420
cttcccacgg caggaagaag gcggtcgtct gcggcatttc ttacagatat tcccagcacg 480
a 481

<210> 1717
<211> 546
<212> DNA
<213> Pinus radiata

<400> 1717
agaagtgcca actgcaaact ttgatttaca ccatgctcac tgtatacgaa acttgcagcg 60
ctgcactgtt tgcggggata tgattccaaa aagtcgttct atggaacacc accaggatac 120
ccatgctcct gtatcttgtt cacagtgtgg cgaatccatt gaacgtgaat tactagtcat 180
ccatgagcgt gacaagtgtc ttcatagaat tgttacatgt ggttattgcg agtttccact 240
gccagctgtt gatcttgata aacatctgaa catctgtggg aatagaacag agtattgtaa 300
tccgtgcagc aagtatgtga gattgtgtga aaagctagct catgatttac agttccatga 360
aggaaattct gatgacactg gggattcttc aagagagcag cacggggaaa ataatcacag 420
ctcaccagca gcagaactgt ctcggagagt tcctagggaa cggccacgag atacctcgca 480
gcgtcgttgg cttgtcacat tagcaatcac aggaattgcc ataattatag gatcatttgt 540
tcttca 546

<210> 1718
<211> 631
<212> DNA
<213> Pinus radiata

<400> 1718
tataaccgcc tcttcttata ctagtgcctt tatcggttcc attcaaactt gctcacggat 60
tccgaccctt ccggctaaag ctgctgcatt tctgtgtgta ttgaagatgg ggagatctcc 120
ctgctgtgaa aaagctcata caaacaaagg ggcgtggacc aaagaagagg acgatcgcct 180
catcgcccac attcgaactc acggcgaagg ttgctggcgc tcgcttccca aggccgcagg 240
gctgatgcgc tgcgggaaga gctgcaggct ccgatggata aactacctgc gtcctgatct 300
gaagcgtgga aacttctcag aagaagaaga cgaactcgtc atcaaactcc actccctact 360
cggcaacaag tggtctctta ttgcaggcag attgcccggg cggacggaca acgagataaa 420
gaactactgg aatactcaca tcaagagaaa attgctaaac aggggactcg acccccagtc 480
ccatcgcccc ctcggccagc cgcacaacag caacacgacc tgcccctctc tgcccgccct 540
cgagcacgaa attcttgtgt tccagaggcc aagaacgccg gagatagcag atttctttca 600
atacgagcgc tctgaaagct cgccgatgga a 631

<210> 1719
<211> 561

<212> DNA
<213> Pinus radiata

<400> 1719
gaacgaacgg tgaagataca cagaggatct ctcaacggct tcatctccgt cgtcgtctct 60
cctccttcca tctccagcgt ccgatctgat cttatcaaag gaagccctta aatccctcca 120
gctttccaag cgcgggttct gttgctgtat cccaggtccc tggtcatatg gcggaagctg 180
gcagcccggg cagccaggaa agtcctcgtt ccggggaaca aagcccccag tccagcgtgc 240
gggagcagga caggttccta cccatcgcca acattagccg catcatgaag aaggcgctgc 300
cggccaacgg caagatcgct aaagacgcca aggagaccgt gcaggagtgt gtctcggaat 360
ttatcagctt catcaccagc gaggccagtg acaaatgcca gcgagaaaag aggaagacaa 420
tcaacggcga tgacttgctc tgggccatga gcacgctagg gtttgaagat tatatcgagc 480
ccttgaaggt ttacttgctc atgtacagag aggcggaggg tgacaataag ggatcttcaa 540
aatctggagt agaccaatat g 561

<210> 1720
<211> 497
<212> DNA
<213> Pinus radiata

<400> 1720
ttattttgca gcatcgagag gcagcagcta cggactaatc gatccatcat agccattttt 60
aatttcgctg cccaatcgaa ccatggagtc taagggacag gctaatccat ctgttgcttc 120
tgtttgtaat ctcagcaaga atggagagcg acgattggaa gggaaagttg ttatagtaac 180
gggcggggca gcgggcatag gagaagccat tgttcagctg ttcgcaaagc acggagcgaa 240
agtcataatc gcagacgttg cagagaaagc tggcagaaag cttgcagaat ccctttctcc 300
agcatcggca acttatgtgc actgtgatgt cagcaaagaa gaagacgtga gcgcggctgt 360
ggatctggct atggataagt atggtcaact cgacattatg tataacaacg ctggaactaa 420
cgacagcttt ctggtgaaga gcgtggcaga gtatgatatg gagcaattcg atcgagtgat 480
gaacgtaaac gtgaaag 497

<210> 1721
<211> 394
<212> DNA
<213> Pinus radiata

<400> 1721
aataaattgg gttgcaaagc tttccagttg tttgccagca ttgaggtggc tgagacttga 60
agaaagtgta caacaatttg ctgtctttat gttgtctcaa gtcgatcttt ccagagaagc 120
tgcacacttg aaccgctttc tttacaattt tcgcaggtgg aaagatgtgt catttcctaa 180
gcccttgtac ccacttgtac acccggcagt tttggtggag acttatgaac aaggcgagag 240
tgtggcacgc tatgttgatc agccagaagc aaaccatagt tttaatagat cacttgctca 300
cactggcacg catactctcc tcaagatgct actggtggat aatttcatcc atgcagatat 360
gcatcctgga aatattttgg ttcgaatggg acaa 394

<210> 1722
<211> 394
<212> DNA
<213> Pinus radiata

<400> 1722
taaggctaag cagaccagag gaggtgaagg agaaaaaaga aacaatggct ggaataggac 60
cgattagtca ggattgggaa cccgttgtca tcaggaagaa ggctcctaac gctgcagcca 120
agaaggacga gaaggctgtc aatgctgccc gtcgaactgg aggccctatt gaaactatca 180
agaaatttaa tgcaggatca aacaaagcag cctcgagcag caccaccttg aacaccaaga 240
agcttgatga tgagacagaa gttctcgctc atgaaagagt ttcatcagat ttgaagaaaa 300
acataatgca agcccgttta gataaaaagt tgacacaagc ccagcttgca cagcaaatca 360

atgaaaaacc tcagattatt caagagtacg agtc 394

<210> 1723
<211> 317
<212> DNA
<213> Pinus radiata

<400> 1723
gattcttctt cttctgctcg ggtctctct ggtgaaatcg tccccgcagg aggagggctg 60
agggcagggc tcggctcggc tcggttcgtt tcggcaggag ttatctcagg gtttttctct 120
tgcttttctg cgccttcgga ctcgggctta cagttacagc atctggaaaa tggcgtcaca 180
ggagagctca aaaatgcaag aggaagggag tgggagacaa gtgccggaag ggcccattca 240
ctgtttgaac aactgcggct tcttcgggag cgcggccacc atgaacttgt gctccaagtg 300
ctacagagag cttaacg 317

<210> 1724
<211> 265
<212> DNA
<213> Pinus radiata

<400> 1724
cggattccga cccttccggc taaagctgct gcatttctgt gtgtattgaa gatggggaga 60
tctccctgct gtgaaaaagc tcatacaaac aaaggggcgt ggaccaaaga agaggacgat 120
cgcctcatcg cccacattcg aactcacggc gaaggttgct ggcgctcgct tcccaaggcc 180
gcagggctga tgcgctgcgg gaagagctgc aggctccgat ggataaacta cctgcgtcct 240
gatctgaagc gtggaaactt ctcag 265

<210> 1725
<211> 284
<212> DNA
<213> Pinus radiata

<400> 1725
caagagtaaa cccgaaggaa tagaagggga aggaggcatc ggcagcgttg ttcctcctcc 60
tctcctctcc tgcatttctc aaactcaaat acctctcctc tcacaatcat ggaaggcgga 120
gtcgtctttg aatctgtgca aaacccactg gatcgcctga acactggaaa tatggaccat 180
ggttgtgccc attacaggag acgatgtcgg attcgggccc cttgttgcaa tgagatctat 240
gattgtaggc actgtcacaa tgaaaccatg agccatctaa agga 284

<210> 1726
<211> 308
<212> DNA
<213> Pinus radiata

<400> 1726
caaaccgcca agtgagcttc atatctaacc aataataaca cctgtatagc ttcacagcaa 60
cagggcacca tgggccgagc tccttgctgt gataaaatgg gagtaaagaa aggcccctgg 120
actctagacg aagataaaat actggtcgac tacattacca aacatggcca tggcaactgg 180
cgtgcactgc ccaagcaagc agggctcctg cgatgtggaa agagttgtcg cctgcggtgg 240
acgaattacc tgaaacccga catcaaaaga gggaatttta gtccagaaga ggaagatcaa 300
attattaa 308

<210> 1727
<211> 338
<212> DNA
<213> Pinus radiata

<400> 1727
gacgagcggt tgttcattaa gcatggagcc aaagtcataa tcgcagacgt cgcggagaaa 60
gctggcagga agcttgagga atcactttct cccgctgtgg caacttacgt gcactgcgat 120
gtgagcaaag aagaagatgt gaccgcggcg gtggatgtgg ccatggataa gtatggccaa 180
ctggacatta tgtataacaa cgctggaact aatgacagct ttttggtgaa gagcgtggta 240
gagtatgata tggagcaatt cgatcgagtg atgaatgtaa acgtgaaagg agtgatgcac 300
ggcattaagc accccgcccg cgttatgatc ccgcggaa 338

<210> 1728
<211> 350
<212> DNA
<213> Pinus radiata

<400> 1728
gcacgaggtt ttaacatctt ttgttgatat ccagaggctt gatgatgtga aaaatgccat 60
aacaccatct accaaggttt tgtattttga atctatctca aacccaactc tggcagttgc 120
agacatccca tctctgtctg ccattgctca tgagaaaaat gtcaaggtgg tggttgataa 180
taccttttct cccatgatca tatcccctgc aaagcttggt gctgatgttg ntattcacag 240
catttcaaaa tatatcagtg gaggtgctga tgttatagca ggagcaatat gtgggcctgc 300
agatctgata aattccatga tggatctcca tcagggaacc ttgatgctct 350

<210> 1729
<211> 333
<212> DNA
<213> Pinus radiata

<400> 1729
ccagtccatg gtttcaagtt agttagtcca ataaagcaga gatgggtcgt gctccatgct 60
gcacaaaagt tggtctcaac aagggagcat ggtctgccga agaggatagt cttctgggaa 120
gatatattca aactcatggt gaaggcaatt ggaggtctct gcccaagaaa gcagggctgc 180
gaagatgtgg aaagagctgc agattgcgtt ggctaaacta tcttcggcca tgtatcaagc 240
ggggaaatat tacaacagat gaagaagaac ttattatcag aatgcatgct ctcttgggca 300
accgatggtc gataatagca gggagagtcc ccg 333

<210> 1730
<211> 508
<212> DNA
<213> Pinus radiata

<400> 1730
ctngtgccga agaaatctga atcgtcgcgt tcgtggtcga caggaagcca cagtgggcgg 60
cctgagaaac tggttgtggt ggtcgggagt gtcaagattg tgacggtggg cggaccagcg 120
tctagtttgt gttggtggtc ggcattagaa ggggcagagg gggcttttca gtgcatggga 180
ttatgggcaa cgaaggcgcg gcatcgatgc ggctatgggg cgacgataat aattccatga 240
tcgaggcttt catggggaac ctcgattact cttactccac cttctggaat ggcatcgatg 300
ccaatccctc ttcgctaccc tcgcccgcca cttcccgtcg tctgccgcag tgttgctatc 360
gccacgccct tcaatcagga cacgctgcag caacgcttgc tggcgtttgt ggagggagcg 420
gctgagtgct ggacttatgc catattctgg cagttgtcga gcgatgccag cggcggctcg 480
gagcttgtct ggggcgacgg gtactaca 508

<210> 1731
<211> 411
<212> DNA
<213> Pinus radiata

<400> 1731
cggagtgaaa tcatttgctg ccgtcactgc tgccaaggtt tgttactgtt agattttgtt 60

atancggaca atggcttcaa cagacataga tatgattccc gtgccctctg gcgagggttc 120
cagctctcaa gcgggaccaa gcgcttccac caagaaggcc aaacgtttcg aaatcaagaa 180
gtggaatgct gtagcccttt gggcgtggga tattgtggtt gataattgtg caatttgcag 240
aaaccacatc atggacctct gtattgagtg tcaggcaaat caagcaagtg caacaagtga 300
agaatgtact gttgcatggg gtgtttgcaa tcacgccttt catttccatt gcataagtcg 360
gtggctcaag acacgacaag tctgcccatt agataataag tgagtgggag t 411

<210> 1732
<211> 390
<212> DNA
<213> Pinus radiata

<400> 1732
cgaaactcga atcgatatgc tttgtggccg gttcaaatat ttgagctggc ttagcttctc 60
tggttcagaa atggcggact aaagtaatag tgtgccccga ggtctggtgt tcgaatctcg 120
ttggcgtgaa aggtcaaatt tttctctcga gtttcattga ttctgaaaaa ctggcatagc 180
tatggcgatg agcaatggga gattgtgtga agatttggat aggattaagg ggcccgtgga 240
gccccgagga ggacgcgtcg ctgcagaggc ttgttcagaa atacgggccg aggaactgga 300
ccctgataag taaaggaatc ccggggcgat ccgggaaatc gtgcaggcta cggtggtgca 360
atcagctgac cctcaggtgg agcacagacc 390

<210> 1733
<211> 277
<212> DNA
<213> Pinus radiata

<400> 1733
atttactgga accattgttg gaataagtga tgctgatcct gtgaactggc cgaattcaaa 60
gtggagatgc ctcaaggtac aatgggatga aatatcagca attgcacgac cagagagagt 120
ttccccgtgg aaattagaac cttcattaac tccagtggca gtgaatcctc tgccagtagc 180
caggggcaag aggcctcggc caaatatatt accttcatct tccgatttat cagtgcatga 240
caaggcccca gtggattcta ctcaggtgca caggttt 277

<210> 1734
<211> 221
<212> DNA
<213> Pinus radiata

<400> 1734
gttgcaggga agggttgccg tgatcacagg aggcgccagt ggaatcggag aggctaccgc 60
caagttgttc gtggagaatg gagcgaaagt agtgattgca gaccttcagg acgaccatgg 120
aaaccgtctt gctcaatccc tcgctcccaa cgcctgcttt ttccactgcg atgtctccaa 180
agaggcggac gtttccgccg tgctggactt ggcgctggag a 221

<210> 1735
<211> 316
<212> DNA
<213> Pinus radiata

<400> 1735
tgggctgttc ccaggagagg agagcctcag ctgtctcgat ctggcgttaa ggggttacag 60
aagaagaatt tcgaagatgg ttagatcttc ttgctattca aagcaaggtc ataggcgtgg 120
gatttggacc cctatggagg atatgattct ctctgaatac nttcgaattc atggcagtga 180
tggatggaaa aatatcgcta aacgagcagg tcttaaacga tgtggaaaga gttgcagatt 240
accgttggtt gaactatctt cgccccgaca ttaaacgtgg taacatttct cctgatgagg 300
aggacctcat tattag 316

<210> 1736
<211> 464
<212> DNA
<213> Pinus radiata

<400> 1736
cagcatcgtg gctcttcccg gcagacctag taagccgact actgtaaatt tattctttta 60
gggttacaga agaagaaaat acaagatggg cagatctcct tgctgctcaa aagaagggct 120
caaccgtggg gcctggacca aaagggagga tatgattctc tccgaataca ttcgaattca 180
tggcgatggc ggatggagaa atatgcccaa aagagcaggt cttaaacggt gtggaaagag 240
ctgcagatta cgatggctga actatcttcg ccccgacatt aaacgtggaa acatttcccc 300
tgatgaggag gaactcataa ttcggctcca tcgccttctt ggcaatcgat ggtcgcttat 360
agcaggaaga ttaccaggtc gaacagacaa cgaaatcaag aactactgga acactcatat 420
gagcaagaag ctgcttccat tgaacgaatc tcaacccaag actt 464

<210> 1737
<211> 361
<212> DNA
<213> Pinus radiata

<400> 1737
aaggaggcat cggcagcgtt gttcctcctc ctctcctctc ctgcatttct caaactcaaa 60
tacctctcct ctcacaatca tggaaggcgg agtcgtcttt gaatctgtgc aaaacccact 120
ggatcgcctg aacactggaa atatggacca tggttgtgcc cattacagga gacgatgtcg 180
gattcgggcc ccttgttgca atgagatcta tgattgtagg cactgtcaca atgaagccat 240
gagccatcta aaggacccct tgctgcgcca tgagctccca agatacaaag ttgaacgggt 300
tatttgttct ctctgtgaca ctgagcaaaa tgtcaagcaa gtttgcgaaa actgtggtgt 360
t 361

<210> 1738
<211> 371
<212> DNA
<213> Pinus radiata

<400> 1738
gcttttctgt ttcattcgat ttcgattgtg tagtgaagag catggccgaa caggtcttgg 60
aagggagtca gccagtggat ctcgagaagc atccttcagg catcgttccc accctccaga 120
atatagtgtc cactgtaaac ttggattgca aattggactt gaaagccatt gctcttcaag 180
ctcgaaatgc agagtacaat cccaagcgtt ttgcagcagt cataatgaga ataagggagc 240
ccaaaactac agcactgata tttgcatcag ggaagatggt ttgcacaggt gcaaaaagtg 300
aacaacagtc aaaacttgct gcaagaaagt atgctcgtat tatccaaaaa ttgggctttc 360
ctgctcattt c 371

<210> 1739
<211> 589
<212> DNA
<213> Pinus radiata

<400> 1739
gtctcagggt aacgaaaatg gggaaggtga caatatggct gcatggctca ctggaataaa 60
cactcttcgc atccagccct tcaaacttcc gcctcttggc ccccatgatg cgaaggtgcg 120
catgaaggct gtgggtatct gtggcagtga cgtccactat ttgaggacat tacggtgtgc 180
ggactttatt gtaaaagagc caatggtgat tggtcatgag tctgctggaa taattgagga 240
ggttggcagt gaagtgaaac atctggttcc tggtgaccgc gtagctttgg agcctggaat 300
atcgtgttgg cgttgtgacc aatgtaagcg aggctcctac aatttgtgtc ccgagatgaa 360
gtttttgca acacctcccg tgcatggttc cttggccaat cagattgttc atcctgcaga 420
tttatgtttc aagttgccag ataatgtaag tctcgaggaa ggtgccatgt gtgaaccact 480

cagtgttggg gttcatgctt gtcgccgtgc ttctgtaggc cctgagacaa atgtcttggt 540
aatgggggca ggtcctatcg gccttgtcac cgtgctgtct gcacgtgca 589

<210> 1740
<211> 473
<212> DNA
<213> Pinus radiata

<400> 1740
ctttgccgtg ttcggttcgt attcagggtt tcgggagctt gttgtgtggt gttctgcagg 60
tcaggacatt gtaggcctgg ttatacaaga tttcgaagca aactctcgga gcctcgaaga 120
atcggcgcaa atttcaacgg ccttataact atttgggaag cagtactctg gatttttctc 180
ccggaacgga tcggagtgtg ggaagcgtaa taatcgcctg gaatttgtct tctgcaagat 240
aatattcaat taatctattg tcgaaggaaa tttgagccgt ataagaggat aatcaaaaga 300
agccggttga tttctccggg attaaaggat ggatcaagaa aactggaaca tcggagctga 360
tggcactggc tgccaagctc cagaagggca cactctttgc gccaataact gcggcttttt 420
tggcagttcg gcaacgagaa acctgtgttc gaaatgttac agggatctga tta 473

<210> 1741
<211> 546
<212> DNA
<213> Pinus radiata

<400> 1741
atccaaataa tacaactatc tttgtgggtg gcttagaccc aactgtgaca gatgatatgc 60
tgagatcatt atttggtcag tttggagaac ttgtgcatgt caaaatacca gtgggaaaac 120
gttgtggatt tgttcagttt aataacaggg cttctgcaga ggaagcattg caaatgctgc 180
atggtacagt tcttggtcag caagccattc gtctttcctg gggacggagt cctgcaaaca 240
aacaaactgc tgggtgggtt caaccccaac aaccagatcc aaatcaatgg aatggagctt 300
attatggtta cggacaagga tatgatgcag gttatggtta tgcaccacaa cctcaggatc 360
ccaatatgta cagttatgcc ccttatgcat atggaaatta tcagcagcag taacatttac 420
ttgggttcag gctcttctgt ggacgtggaa atatgggttc attcatagag ctgtctctgt 480
aaacagttgt ttttaacggg catccagtca acttatctat attaaattta atgaagagga 540
aagtct 546

<210> 1742
<211> 348
<212> DNA
<213> Pinus radiata

<400> 1742
agcaacctac gcttgagcag ccgaatgcga agcacccatc gattccgctt ccctcggcgt 60
tggtgccctc aagtagcgac gttccaatgg tggaagcagt agcagcagcg gagacggcca 120
ttggcaccgc tccatccagc tcggcagaac aggaggtgga gaaacatgaa caggacgagg 180
aggaacagct gaggaagagc aagaagaggt gttttgcgtg taacaggcgg gtggggctga 240
cgggctttaa gtgccgctgt ggtgaccttt tctgcgctca gcacaggtac tctgatatgc 300
atgactgctc ttttgactac aagactgccg gccgcctcgc cattctca 348

<210> 1743
<211> 300
<212> DNA
<213> Pinus radiata

<400> 1743
cgaccatgct tcaagtgctg tcatggtggt tgtgtcatca gcccctcaaa ttatgntgct 60
catgaaggca ggctatattg taggcatcat agctctcaac tttttaggga gaaaggtaac 120
ttcagccanc tttcaaaggc aacacctaca aaaggggtga ctgataactc agacacagac 180

nacaagtgat cattcgggcc agatttttgc tgacagagtt gtagtgtgtt attgattcat 240
ttcatacatt tgatatgcaa gcctgtacaa tatcctgtga ctgttaaagg cattcttttg 300

<210> 1744
<211> 355
<212> DNA
<213> Pinus radiata

<400> 1744
ggctcttccc ggcagaccta gtaagccgac tactgtaaat ttattctttt agggttacag 60
aagaagaaaa tacaagatgg gcagatctcc ttgctgctca aaagaagggc tcaaccgtgg 120
ggcctggacc aaaagggagg atatgattct ctccgaatac attcgaattc atggcgatgg 180
cggatggaga aatatgccca aaagagcagg tcttaaacgg tgtggaaaga gctgcagatt 240
acgatggctg aactatcttc gccccgacat taaacgtgga aacatttccc ctgatgagga 300
ggaactcata attcggctcc atcgccttct tggcaatcga tggtcgctta tagca 355

<210> 1745
<211> 294
<212> DNA
<213> Pinus radiata

<400> 1745
attgcttgaa agagatgcac gagcatcttc aatttgcttg tccagtgtgc tccaaatctg 60
tctgtgatat gtctaaattg tgggagaaac ttgaccgaga ggttgctttg actccaatgc 120
ctgaagctta ccagaacaaa atggtttgga tcttatgcaa tgattgtgga gtaacttctg 180
aagtaaattt tcacattgtt gcacacaagt gtcaaagttg caattcttat aacacccggc 240
agaccagggg aggtccttct gcaagttcat gtagatctca tctttgatat tctc 294

<210> 1746
<211> 316
<212> DNA
<213> Pinus radiata

<400> 1746
aaccgcctct tcttatacta gtgcctttat cggnnccatt caaacttgct cacggattcc 60
gacccttccg gctaaagctg ctgcatttct gtgtgtattg aagatgggga gatctccctg 120
ctgtgaaaaa gctcatacaa acaaaggggc gtggaccaaa gaagaggacg atcgcctcat 180
cgcccacatt cgaactcacg gcgaaggttg ctggcgctcg cttcccaagg ccgcagggct 240
gatgcgctgc gggaagagct gcaggctccg atggataaac tacctgcgtc ctgatctgaa 300
gcgtggaaac ttctca 316

<210> 1747
<211> 263
<212> DNA
<213> Pinus radiata

<400> 1747
gtggctgttc ccaggagagg agagcctcag ctgtctcgat ctggcgttaa ggggttacag 60
aagaagaatt tcgaagatgg ttagatcttc ttgctattca aagcaaggtc ataggcgtgg 120
gatttggacc cctatggagg atatgattct ctctgaatac attcgaattc atggcagtga 180
tggatggaaa aatatcgcta aacgagcagg tcttaaacga tgtggaaaga gttgcagatt 240
acgttggttg aactatcttc gcc 263

<210> 1748
<211> 145
<212> DNA
<213> Pinus radiata

<400> 1748
ttcggtcgga gaattgtggg tgggagcccc accggaggag tganggaaac tcaagagatg 60
ttggactttt gtgcagagca taacatcagt tgcatgattg aaaacattgc aatggattac 120
cgtgaacaca gcaatcgaac gatta 145

<210> 1749
<211> 206
<212> DNA
<213> Pinus radiata

<400> 1749
ctggtgtgaa tcacatcgga gatggcattc gcaggaacac agcanaagtg caaggcatgc 60
gagaagacgg tgtacgtggt ggatcagctc acagccgatg gttcagtctt tcacaaggcc 120
tgcttccgct gccatcattg caatggcacc ttaaagctca gcaactattc ttcttttgaa 180
ggggtgctgt actgcaaacc tcactt 206

<210> 1750
<211> 263
<212> DNA
<213> Pinus radiata

<400> 1750
gttaaatttg accccttcaa tgcgttttat ggttcagcct ctatgttaat ttgacacagt 60
gagctgaaat attgcggctg gatgtgtaca ttcacgacta tctcataaaa cggaatcttc 120
ttgcatctgc caagacattt atgacggagg caaaagtttc tccagaacca gtcgcaattg 180
atgcacctgg aggctttttg tttgaatggt ggtctgtgtt ttgggatatt ttcatctcac 240
ggacaaatga gaagcactct gag 263

<210> 1751
<211> 321
<212> DNA
<213> Pinus radiata

<400> 1751
ccaatatggg ggcagatagt atggttcctg ttcacactcc tgaagttatt gagcattctt 60
ctacaaaagt ttctattgat acagctgggt caatggatgt ggatgcagca tccaagtgca 120
atcacgttta cagaactaca tctctcaacc actgtgtctc ttcctccccc atagatgttg 180
gaattgtacc tgacagcaac attacatctg atatttcaac accttaccat gacccaagag 240
gagtattcga gattcctcct cgggttgttc atcctggagg ccaaggtgag gtcatgggaa 300
gagaagcaag agttctcaga t 321

<210> 1752
<211> 316
<212> DNA
<213> Pinus radiata

<400> 1752
cggcccgagc aattttgctt ctctgctaaa cgatgggaag agcgccttgc tgtgccaacg 60
gtgacagaag caagggagcc tggaccaagg aagaggatga caggcttacc caatatattc 120
aggctcatgg agaaggatgc tggcgttctc tccccaaggc cgcaggtctg cttcggtgtg 180
gaaaaagttg caggctgaga tggataaatt atcttcgccc tgatctgaaa cgaggaggtt 240
tttctgaaga tgaagacgat cttattctca aactgcacgc cctcctcgga aataagtggt 300
ctctgatagc gggtcg 316

<210> 1753
<211> 335

<212> DNA
<213> Pinus radiata

<400> 1753
attgagtaaa acttcattca gttggattct catcgttttc atggcttaca acccgcaaac 60
atgccgccgc cgccaccagc ccggacagca gcctgggctc agacaacgag tccggcggcg 120
gaggaggagg cggcggagga gaagggcagt cgacgaagaa tggcaatggc aactacatta 180
gagagcagga tcgcctgctc cccatagcga acgtggggcg gataatgaag cgggcgctgc 240
ggggaatgcg aaaatctcca aagacgcgaa ggagacggtg caggaatgtg tgtcggagtt 300
catcagcttc attaccggcg aggcctctga caagt 335

<210> 1754
<211> 349
<212> DNA
<213> Pinus radiata

<400> 1754
cacacagaag cttgtccgat ggcgatcacg caggggaaat ggctacaggt gaatcagaag 60
gaagggggc caaaagcgcg gagctcccat gcagttgcag tggtgggaaa aaaggcgtat 120
gtgttcggtg gagaggtgga gccgcgcgtg ccagtggaca atttgatgca tatcttggat 180
ctggaggaca attcctggtc cgtggcggat gccaagggag aggcaccgcc tcccagagtg 240
ggggtcacca tggtccctat cggctctgtt atttatctct tcggtggtcg agaccagcat 300
cacaaggagc tcaaccattt ctattccttc gatacnaatt cctgccagt 349

<210> 1755
<211> 289
<212> DNA
<213> Pinus radiata

<400> 1755
tcttaatgcc ctaaaggagc ccagcaagaa gatcgacggc cgcatgactg tcagtcagtt 60
ggcctctgct ggttcacagc ctgcccagcc ggcggctgat gtatctgccc ggaaaatcta 120
tgtcgggaat gttcccatgg acatggcggc agatcgcctg ctgagccttt tttctcagta 180
tggagagatc gaagaggggc cactagggtt tgataagcaa tcgggcangt caaggggttt 240
tgcgcttttt attttcaagt cangtggacg caactaagcg tgcgttgga 289

<210> 1756
<211> 235
<212> DNA
<213> Pinus radiata

<400> 1756
agagtatgat cctgttgcta aaatttcaat cattcctcgt ggacaagctg gaggtctgac 60
attctttgct cctagtgaag agagactgga atctgggctt tacagcagaa gttaccttga 120
gaatcagatg gcagttgccc tcggtggaag ggtggcagaa gaagttattt ttgggaaaga 180
aaatgtcaca acaggagcat cgaatgactt cccacaagta tctcgtgttg cccgg 235

<210> 1757
<211> 457
<212> DNA
<213> Pinus radiata

<400> 1757
gtaggatgga aggcacgggt aagagattca aagggaaggt ggcggtggtg accgcttcaa 60
cacagggcat aggattcgcc attgcacagc accttggcct cgaaggtgct tccgttgtcg 120
tctcttcacg caaaaagaac aatgtagagg aagcagtgga aaagatgaga gccaaaggga 180
ttgatgttct gggagtggcc tgccatgttt ccagtcgaga acagaggagg gatctcatcc 240

aaaagactgt agataaatat ggtcacatag acattctggt ctcaaatgca gctgctaatc 300
caactgtgaa gcccattgtt ttagttccag agcctgtact tgataaaatt tgggagatta 360
atgtcaaggc cactattctt cttgtccagg aagctgctgc tcacttgtca caagagtcat 420
caattatcat aatttcatca gttgctgctt acagacc 457

<210> 1758
<211> 345
<212> DNA
<213> Pinus radiata

<400> 1758
catgtctttg attcgggcaa gcagacatgg agtaagccta tggtgaaagg aaccccgccc 60
tctcccaggg acagccacag ctgtaccact gtgggaacaa acttgtttgt atttggtggc 120
acagatggga agaaccctct acgggatttg catatgctgg acactactac aaatacatgg 180
gtgcaaccta acgtaagtgg tgaaggaccg gcagctcgtg aggggcacag tgctgcactc 240
attgatcacc gtctttttat atttggaggt tgtggaaaag ttcaagatga atctgaagag 300
atatattaca acgaccttta catactagac acagttaact taatt 345

<210> 1759
<211> 544
<212> DNA
<213> Pinus radiata

<400> 1759
gagcaaccca cattgcattg attgcactac agtttcagcg attttcaggt catctcaggt 60
gtgcagctta agcttattct cttgaaaata tggctgagga aggagagaag gtcatggtaa 120
acgtttatga tctaagccaa ggacttgctc gtcaactctc aactactttt cttggaaaag 180
ccattgaagg aatttggcat accggtgtgg tagtttatgg gaaggagtat tactttgggg 240
gtggtattca acacagccct acagggcaaa ctccatatgg aaaaccgtgg aaagtggttg 300
agttgggtgt cactcacgtt ccgatggaaa tgtttgaaga attcctggaa aaaataagcc 360
ctcgctatac agcttaaaca tatagtttgg tgcaccataa ctgtaacaac ttcagcgatg 420
aggttgcaca gtttttggtt ggctgcaaca tcccagattt catccttagg ctcccacaag 480
aagtgatgaa cagcccaatg ggccctttaa taatgcccat gataatgcag tttgaagcta 540
ctct 544

<210> 1760
<211> 375
<212> DNA
<213> Pinus radiata

<400> 1760
cgatagccga gagcaccctt atctcctcca ctctgtttca tacatgcaac aagctctggc 60
agcagcaatg gcggcccaga ctatcatcgc tgcctctatg gcatctcctc taacattatc 120
aaatggccac tatccgtttc agtccgagtt caaggggtcc gtggttcgaa tcccgcagag 180
ggcattttcc ttcgcgcctg cagcccgggc gctgaccgtc gtcgcanagg ccaagaaggc 240
cgttgccgtg ctcaaaggaa attcacaggt cgagggtgtt gtcaatctct cgcaggaaga 300
caacggtccc acaacagtga aggtccgttt gacaggactg actcctggga agcatggctt 360
tcatctacat gagtt 375

<210> 1761
<211> 333
<212> DNA
<213> Pinus radiata

<400> 1761
tttatatttt tacaatccga ggttgcaggg actttcagag aggtcgatac cgtggaaaag 60
actgagattg acggatcgat tgcaatggcg tttgcggaag agtattccga tcgcgatgcc 120

gtatttcaaa agctgaaggc gaagtctgaa aacaagattt gttttgattg caatgctaaa 180
agtcccagtt gggccgtccg tgacatatgg agtattcatt tgtcttgatt gttcagcaat 240
gcatcggagt cttggtgttc atgtcagttt tggaggtcta caaatctcga tacatggacc 300
atggagcagt tgaaattgat gagctttggt ggt 333

<210> 1762
<211> 331
<212> DNA
<213> Pinus radiata

<400> 1762
ctcgtgcccg actataggcc gcaccaccct cagccgtttc ttctttgcct ctcttcttct 60
tgtgggccat gtgacctatg gcctattcat tttctgcact ggatctgaga gcgaggggga 120
agttaacgag agccctggct ccacgaattt tgaaggcggc gcggncatat gcgagagcag 180
cctcttcggc ggtgatgaaa gngccgagcc aaactctggt cctcttggcg ggtctctgga 240
tttcagctgc gaatttaccc cacggccgct gccggactcc tctgtagcgc ctagctccgc 300
tcatctgctt catctctcca ctctgctctt c 331

<210> 1763
<211> 568
<212> DNA
<213> Pinus radiata

<400> 1763
ccggccgccc cctccgacct gcctgatgga acacagtggc gctacagcga gttcttgaac 60
gccgtgaaga agggtaaggt ggagcgcgtc cgcttcagca aggacggcag ctacctccaa 120
ctgagcgccg tcgatgggag gcgtgccact gtaaccctgc caaacgaccc ggacctggtg 180
gacatccttg cgatgaatgg tgtggacata tcggtttccg agggggaggc gagcaatggc 240
ctcctcagcg taatcggtaa tcttttattc ccaattttag ccttcggggg tttattcttc 300
ttatttcggc gggctcaggg aggccctggg ggtcccggag gtttgggcgg ccctatggac 360
ttcggtcgct ctaagtccaa gttccaggag gtgccggaga ctggagttac atttgccgac 420
gtggcaggcg ctgaccaggc caagctggag cttcaggagg tggtggattt cttgaaaaac 480
cctgataagt atactgccct tggtgccaag atccccaagg gatgcttgtt ggtaggtccg 540
ccggggacgg gcaagactct actggccc 568

<210> 1764
<211> 351
<212> DNA
<213> Pinus radiata

<400> 1764
gagaaggaag ctgctcttgc tgccacacca ccagaagatg ataaacctac aatatttgac 60
acaatactgc agaaggagat tcccagtaca gtggtttacg aggatgagaa ggtacttgca 120
ttcagggata tcgcaccccca agcacctact acatcattat catccccaaa gtaagggatg 180
gcttgactgg cctatctaag gcagaagaga ggcatgagga tatttaggtc acctgctata 240
cactgcaaaa gttattgcaa agcaggaagg tttatctgat ggcttcagaa ttgtcattaa 300
cgatggtcct actggatgcc aatctgtgac catttacata ttcatctact c 351

<210> 1765
<211> 462
<212> DNA
<213> Pinus radiata

<400> 1765
tgtaaattta ttcttttagg gttacagaag aagaaaatac aagatgggca gatctccttg 60
ctgctcaaaa gaagggctca accgtggggc ctggaccaaa agggaggata tgattctctc 120
cgaatacatt cgaattcatg gcgatggcgg atggagaaat atgcccaaaa gagcaggtct 180

```
taaacggtgt ggaaagagct gcagattacg atggctgaac tatcttcgcc ccgacattaa     240
acgtggaaac atttcccctg atgaggagga actcataatt cggctccatc gccttcttgg     300
caatcgatgg tcgcttatag caggaagatt accaggtcga acagacaacg aaatcaagaa     360
ctactggaac actcatatga gcaagaagct gcttccattg aacgaatctt aacccagact     420
ttgcctgtcc ccaaaaagag gtcgcaatct tcttctccct gc                        462

<210> 1766
<211> 532
<212> DNA
<213> Pinus radiata

<400> 1766
gtaaaaatga ccacggcgtg gacttctgga acnccccgga gcgttcagga tggttgatga      60
agcagggcga gtacatcaaa acatggaggc gcagatggtt tgttctaaag cagggaaagc     120
tcttctggtt caaggaaaat tacatcacaa gggattctaa tccccgtggt gttgttccgg     180
tgagcacctg cctgactgtc aagggagccg aagacgtcct caacaagcca ttcgccttcg     240
agctctcgac gagcagagag accatgtact tcatcgcaga cagcgataag gagaaggagg     300
agtggatcaa ttccatcggc cgctccatcg tacagcattc caggtcagtt acagacaagg     360
agatcgntga ttatgatagc cagcgtgccg ataaatgaat acccaattcg aatcggatgg     420
attcgctgta aattggttgc aattagggtt tctaggggtt tcttttgaat tttgtgatgg     480
aacgccttaa atcggttgtc cattgcattt ctaggatgaa tcttaataaa tt             532

<210> 1767
<211> 354
<212> DNA
<213> Pinus radiata

<400> 1767
aaccgcctct tcttatacta gtgcctttat cggttccatt caaacttgct cacggattcc      60
gacccttccg gctaaagctg ctgcatttct gtgtgtattg aagatgggga gatctccctg     120
ctgtgaaaaa gctcatacaa acaaaggggc gtggaccaaa gaagaggacg atcgcctcat     180
cgcccacatt cgaactcacg gcgaaggttg ctggcgctcg cttcccaagg ccgcaaggct     240
gatgcgctgc gggaagagct gcaggctccg atggataaac tacctgcgtc ctgatctgaa     300
gcgtggaaac ttctcagaag aagaagacga actcgtcagt aaactccact tcct           354

<210> 1768
<211> 430
<212> DNA
<213> Pinus radiata

<400> 1768
cttcgacggc gcgatagccg agagcaccct tatctcctcc actctgtttc atacatgcaa      60
caagctctgg cagcagcaat ggcggcccag actatcatcg ctgcctctat ggcatctcct     120
ctaacattat caaatggcca ctatccgttt cagtccgagt tcaaggggtc cgtggttcga     180
atcccgcaga gggcattttc cttcgcgcct gcagcccggg cgctgaccgt cgtcgcagag     240
gccaagaagg ccgttgccgt gctcaaaggg aattcacagg tcgagggtgt tgtcagtctc     300
tcgcaggaag acagcggtcc cacaacagtg aaggtccgtt tgacaggact gactcctggg     360
aagcatggct ttcatctaca tgagtttggt gacacaacca atggctgcat atcaacagga     420
gcacatttta                                                            430

<210> 1769
<211> 407
<212> DNA
<213> Pinus radiata

<400> 1769
gaacgaacgg tgaagataca cagaggatct ctcaacggct tcatctccgt cgtcgtctct      60
```

cctccttcca tctccagcgt ccgatctgat cttatcaaag gaagccctta aatccctcca 120
gctttccaag cgcgggttct gttgctgtat cccaggtccc tggtcatatg gcggaagctg 180
gcagcccggg cagccaggaa agtcctcgtt ccggggaaca aagcccccag tccagcgtgc 240
gggagcagga caggttccta cccatcgcca acattagccg catcatgaag aaggcgctgc 300
cggccaacgg caagatcgct aaagacgcca aggagaccgt gcaggagtgt gtctcggaat 360
ttatcagctt catcaccagc gaggccagtg acaaatgcca gcgagaa 407

<210> 1770
<211> 347
<212> DNA
<213> Pinus radiata

<400> 1770
cagacttttg ctccgaactg ttctggtgaa acaaaatcca gtattgagct aggtttagaa 60
tcgggtttgc tggtcatctg ggagaggcga tccattcagc ttcgcaggcc cccgaagatg 120
gcgttcgccg gcacaaccca gaagtgcaag gcatgtgaaa agacggtcta tttggttgat 180
caattgacag ctgataattc tgtttttcac aaatcctgtt tccgctgcca tcactgcaat 240
ggaactttaa agcttagcaa ctattcgtcg tttgagggag ttctatattg caaacctcat 300
tttgaccagc tgtttaagag aacaggaagt ttggataaaa gttttga 347

<210> 1771
<211> 469
<212> DNA
<213> Pinus radiata

<400> 1771
cgatagccga gagcaccctt atctcctcca ctctgtttca tacatgcaac aagctctggc 60
agcagcaatg gcggcccaga ctatcatcgc tgcctctatg gcatctcctc taacattatc 120
aaatggccac tatccgtttc agtccgagtt caaggggtcc gtggttcgaa tcccgcaaag 180
ggcattttcc ttcgcgcctg cagcccgggc gctgaccgtc gtcgcagagg ccaagaaggc 240
cgttgccgtg ctcaaaggaa attcacaggt cgagggtgtt gtcaatctct cgcaggaaga 300
caacggtccc acaacagtga aggtccgttt gacaggactg actcctggga agcatggctt 360
tcatctacat gagtttggtg acacaaccaa tggctgcatc tcaacaggag cacattttaa 420
tccaaaaaaa ttgacacatg gtgctcctga ggatgatgta cgccatgcg 469

<210> 1772
<211> 461
<212> DNA
<213> Pinus radiata

<400> 1772
tcttaccctt ttcctgagcc accgagaatt tcctctccgg aatacccact tctcagagat 60
tcttgctgcg aactctgttt tcttcagcga gatttgtcag tgaattgtga ggagtattga 120
gtcttatcat gcggatccag tgcgatgcct gcgagcaggc aactgcttca gtgatatgtt 180
gtgcagacga ggctgctctg tgcagggaat gtgatataaa agtccacaag gccaacaagc 240
ttgccagcaa acacaagaga ttatctctcc tcgaaacttc tcgaaagctc tctcgctgcg 300
acatttgcca ggatagggcc gccatcgttt tctgtctcga agatcgtgct atgctgtgcc 360
aagactgcga tgagtccgtt cattctcgcg acacattagc agcaaaacac caaaggttcc 420
tggccactgg cattagggta ggtctcaatg ccctgtcatc a 461

<210> 1773
<211> 332
<212> DNA
<213> Pinus radiata

<400> 1773
gacaatatgg ctgcatggct cactggaata aacactcttc gcatccagcc cttcaaactt 60

ccgcctcttg gcccccatga tgcgaaggtg cgcatgaagg ctgtgggtat ctgtggcagt 120
gacgtccact atttgaggac attacggtgt gcggacttta ttgtaaaaga gccaatggtg 180
attggtcatg agtctgctgg aataattgag gaggttggca gtgaagtgaa acatctggtt 240
cctggtgacc gcgtagcttt ggagcctgga atatcgtgtt ggcgttgtga ccaatgtaag 300
cgaggctcct acaatttgtg tcccgagatg aa 332

<210> 1774
<211> 322
<212> DNA
<213> Pinus radiata

<400> 1774
ctcctgtgca gcgtacgcct tcgcctttgc gatttcgagc cccattggaa ttgccattgg 60
aatacttatt gacgccacta cagagggccg agtggcagac tggatttatg caatctcaat 120
gggtttgcg tgcggtgttt tcgtttatgt tgccatcaac catcttctga tgaaaggatt 180
aatacagaac cctctgaaag gtgtgattcg ctttgacaaa ccctttaca aatatttggc 240
tgtactcact ggagctggac tgattgcagt ggtaatgatt tgggacacct agtggtaatg 300
aattgggaca cttcttagct gc 322

<210> 1775
<211> 428
<212> DNA
<213> Pinus radiata

<400> 1775
gagagagaga gagagagaga gagagagaga gagagagact cnngccgant tcgnnacnag 60
cgaagccngt ttccaaanat ggatngggag aaactcatga agatggctgg tgcagtccgc 120
actggcggaa agggtacaat gcgaaggaaa aagaagacaa ttcataagac tgccacggca 180
gatgacaaga gacttcaaag taccttgaaa agaataggcg tgaataacat ccctgctatt 240
gaagaagtca atatttttaa ggatgaccat gttattcatt ttgctaaccc aaaggtccag 300
gcttctattg ctgccaacac atgggtggtt agtgggtcat cgcaaacaaa aaaacttcaa 360
gatcttttcc ctggtatcat caatcagctt ggaccagaga gttttgccaa tctgaggaag 420
attgcaga 428

<210> 1776
<211> 512
<212> DNA
<213> Pinus radiata

<400> 1776
ataaaaccct aaatctctgc actcgccagc tacgatttat tctgcctcca gcattttggt 60
ccttaccagt ttgggcctct ttttgcggtt tctacacata gccgctgcga ttctggggag 120
tttctttggc ttagattttt ggggtaaaat tctgggtatt gtggtttgct cacactaatt 180
atcctgtcat ggatcatcaa cagcagcagt ggatgatgca gcaacaaact caacaacagt 240
atcagcagcc gcagtattcg aatgacgaaa tccggacact ttggatcggg gatttgcagt 300
attgggtcga tgaaaattat ctccatactt gcttttcgca aaccggagag gttgtgtcta 360
taaaggtgat tcggaacaag gctacaggct atccggaagg ttatggtttt gtggagttta 420
tttcccatgc agcagctgag aggattcttc aaacatacaa tggtacacag atgcctggca 480
cagagcaact ttatagatta aattgggctt cc 512

<210> 1777
<211> 498
<212> DNA
<213> Pinus radiata

<400> 1777
ggatggaagg cacaagtaag agattcaaag ggaaggtagc ggtggtgacc gcttcaacaa 60

gggcataggg ttcgccattg cagagcgcct tggcctcgaa ggcgcttccg tcgtcgtctc 120
atcacgaaaa cagaaaaatg taggggaagc agtggaaaag ctgagagcca aagggattga 180
tgttctggga gtggcttgcc atgtttccag tcgagaccag aggagagatc tcatccaaaa 240
gactgtagat aaatatggtc gcatagacat tctggtctca aatgcagctg ctaatccaac 300
tgtggacccc attgtttcgg ttccagagcc tgtacttgat aaactttggg agattaacgt 360
caaggccact attcttcttg tccaggatgc ttctgctcac ttgtcacaag agtcatcaat 420
tatcataatt tcgtcaatta ctgcttacag gccagaggca atgatggcca tgtatggggt 480
taccaagact gctctttt 498

<210> 1778
<211> 435
<212> DNA
<213> Pinus radiata

<400> 1778
ggcgacacat ggcccgtgtc aggcgccttg agaggccaca agcgtgcaat tctatgcttg 60
gcgagtgttg cagaattttt atgcagtgga tcggcggata atactattag aatgtggaaa 120
aggggagaag gaaacaggca ttactgtttg gcggttttag aaggtcacag aggacctgtt 180
aagtccatcg cagtgtcttt agacactgtg aggggatgcc acgtctacag cggaagcctg 240
gatcatgaca ttaaggtttg gcgggttagt tcaaataaaa gcagttccga cgatcatgcc 300
gagggtgcca accataacaa tcgcttgaaa accatacact cccctgagga aagcgttttt 360
cattcaaggc aaatttttgg tatttcatga aactgatgta gccatctacg tgtcaactaa 420
ctacaatatg cctgt 435

<210> 1779
<211> 470
<212> DNA
<213> Pinus radiata

<400> 1779
gccatggctg catttcgcag ggttctgttg ctgtatccca ggtccctggt catatggcgg 60
aagctggcag cccgggcagc caggaaagtc ctcgttccgg ggaacaaagc cccagtcca 120
gcgtgcggga gcaggacagg ttcctaccca tcgccaacat tagccgcatc atgaagaagg 180
cgctgccggc caacggcaag atcgctaaag acgccaagga gaccgtgcag gagtgtgtct 240
cggaatttat cagcttcatc accagcgagg ccagtgacaa atgccagcga gaaaagagga 300
agacaatcaa cggcgatgac ttgctctggg ccatgagcac gctagggttt gaagattata 360
tcgagccctt gaaggtttac ttgctcatgt acagagaggc ggagggtgac aataagggat 420
cttcaaaatc tggagtagac caatatggaa agaaagagtc aaatgtacat 470

<210> 1780
<211> 359
<212> DNA
<213> Pinus radiata

<400> 1780
attcgttcgt tccaacaaca gcgaagccga tttccaaaga tggataggga gaaactcatg 60
aagatggctg gtgcagtccg cactggcgga aagggtacaa tgcgaaggaa aaagaagaca 120
attcataaga ctgccacagc agatgacaag agacttcaaa gtaccttgaa aagaataggc 180
gtgaataaca tccctgctat tgaagaagtc aatattttta aggatgacca tgttattcat 240
tttgctaacc caaaggtcca ggcttctatt gctgccaaca catgggtggt tagtgggtca 300
tcgcaaacaa aaaaacttca agatcttttc cctggtatca tcaatcagct tggaccaga 359

<210> 1781
<211> 360
<212> DNA
<213> Pinus radiata

<400> 1781
cggcccgagc aattttgctt ctctgctaaa cgatgggaag agcgccttgc tgtgccaacg 60
gtgacagaag caagggagcc tggaccaagg aagaggatga caggcttacc caatatattc 120
aggctcatgg agaaggatgc tggcgttctc tccccaaggc cgcaggtctg cttcggtgtg 180
gaaaaagttg caggctgaga tggataaatt atcttcgccc tgatctgaaa cgaggaggtt 240
tttctgaaga tgaagacgat cttattctca aactgcacgc cctcctcgga aataagtggt 300
ctctgatagc gggtcgtttg cctggtcgaa ctgacaacga gatcaaaaac tactggaact 360

<210> 1782
<211> 141
<212> DNA
<213> Pinus radiata

<400> 1782
cttctgtgga ttttatcaag aactctttaa ctagtgttga tgatgataaa ggttcttttg 60
caccaacaaa tttcattgag caggctgatg aattgatccg aaaagagctg gtgtcattac 120
tagagcacga caatgcaaaa t 141

<210> 1783
<211> 370
<212> DNA
<213> Pinus radiata

<400> 1783
atttgagtgg ggtgttttca ctagcagaag cagcaaggtc agttttccac tacagtactg 60
caacttcctc ctatttccca cctcctcaag cttacccttc tgacttcagt tcccatcctg 120
tgaatccacc atccaaacag ctcaatgaca caaccagatt agcccaagca ttgttctgat 180
aattataatc ctgacagtta tattttttct ctctgcatgt cttcacgttt taatcagata 240
cttggcaaga tctcccaata gagactccaa cagctcaggg gccataggtg caatcgaagg 300
gcaactgcag cagctgtttc atctccatga cgcaagggtt gagcaggcct tcattgatgc 360
attaccagtc 370

<210> 1784
<211> 381
<212> DNA
<213> Pinus radiata

<400> 1784
tggttttgat ttgagtagcg ggtttataag tccgggattt ggtggttttt aaatggggct 60
aagctattct taattttgtt ctgttgggta cagcagagat ttgaagggga tttgaatttg 120
aatcatggaa gttgagtgct gcagccctcg gtcttccgct caggggtgtg aggttgacat 180
gaagccaacg atggtggtgg aagatacgct taatcaagga cgcatgcaat atggatgttc 240
acactaccgc cggagatgcc aaataagggc tccgtgttgt aatgaagtct ttgactgtag 300
gcattgtcat aatgaggcca aaaattcaat ggatgtccat ccacttgaca gacatgatgt 360
accgcgccat gaagttcgaa a 381

<210> 1785
<211> 441
<212> DNA
<213> Pinus radiata

<400> 1785
cacaggcagc agataatatg aggcacaaga attcgtgcca atttcgtttc tttgcttact 60
atttcttcct tcttctttaa caaatggata tattctaatc agtgcgctgg taatttgcag 120
gttgcaggga agggntgctg tgatcacagg aggtgccagt ggaatcggag aggctacggc 180
caagttgttc gtggagaatg gagcgaaagt agngattgca gaccttcagg acgaccatgg 240
aaaccgtctt gctcaatccc tcgctcccaa cgcctgcttt ttccactgcg atgtctccaa 300

agaggcggac gtttccgccc tgctagactt ggcgctggag aagcacggac gtctcgacat 360
agtgttcagc aatgccggaa tcccaggcgg gttattctcg tccatggcag acgtcactgt 420
cgaggatttg gaaagggtca t 441

<210> 1786
<211> 435
<212> DNA
<213> Pinus radiata

<400> 1786
caataatgca ggagtccctc aattagtgct caaccttgtg tttgtcttgg aattgagcag 60
gcttctggcc aactggcttc tgtcccctttt ctggatatca gaccatcaat atggcgttcc 120
tctggatcag cccctcgcca attggcccat cactccttta actaatcctg ctagtcttcg 180
ttattctggc ctcatcttct ccgcttctct tgcgccttct gcccctgttt cccccaaccc 240
tgcataccct gaccagcaga gcgttcgtga gaatttgccc gccgtcttcg actatgggag 300
tctcagtgct gatcgccagg aggtggttgt ctgtattgtt tgtttcaatg agttcgtgtc 360
gcgggatcga gtgcgccggc tagctaaatg tggccatgtt ttccatatgg agtgtttgga 420
taagtggatc gacta 435

<210> 1787
<211> 323
<212> DNA
<213> Pinus radiata

<400> 1787
gttgttcatt aagcatggag ccaaagtcat aatcgcagac gttgcggaga aagctggcag 60
aaagcttgag gaatcacttt ctcccgctgt ggcaacttac gtgcactgcg atgtgagcaa 120
agaaaaagat gtgagcgcgg cggtggatgt ggccatggat aagtatggcc aactggacat 180
tatgtataac aacgctggaa ctaatgacag ctttttggtg aagagcgtgg tagagtatga 240
tatggagcaa ttcgatcgag tgatgaatgt aaacgtgaaa ggagtgatgc acggcattaa 300
gcacgccgcc cgcgtgatga tcc 323

<210> 1788
<211> 359
<212> DNA
<213> Pinus radiata

<400> 1788
cccttatctc ctccactctg tttcatacat gcaacaagct ctggcagcag caatggcggc 60
ccagactatc atcgctgcct ctatggcatc tcctctaaca ttatcaaatg gccactatcc 120
gtttcagtcc gagttcaagg ggtccgtggt tcgaatcccg cagagggcat ttccttcgc 180
gcctgcagcc cgggcgctga cagtcgtcgc agaggccaag aaggccgttg ccgtgctcaa 240
aggaaattca caggtcgagg gtgttgtcaa tctctcgcag gaagacaacg gtcccacaac 300
agtgaaagtc cgtttgacag gactgacttc tgggaagcat ggctttcatc tacatgagt 359

<210> 1789
<211> 350
<212> DNA
<213> Pinus radiata

<400> 1789
ggatagttgt gctccgagga aagcattgaa ttggggataa tggcggaaac tgtcacatat 60
tcatggccgg tgggtttcgt ctgtttcgtt ctgacgatgt tactacttca actctacaga 120
atagtgtgga gggaggacag tcgaggctac aatttgcctc ccggttccag tgggtggcca 180
ttgattggag agaccttgag cttcatgcga gggattaatt ccatttctaa accacgccaa 240
ttcattcaag atcgagagca aaggtatggg aagatattca gaacaaattt gtttggaaga 300
tctcgaatga ttgtgtctgt ggacccagaa ttcaacaagt atattctgca 350

<210> 1790
<211> 337
<212> DNA
<213> Pinus radiata

<400> 1790
gatttaggta gggttttaag gaagaaagac gatccaagca gtgggttttt atcgagctcc 60
cacgcagttt gaagggtgtc gcagcagaag aagatcggat tcgttcatcc tcatcacaaa 120
agatggatcg ggataagctt atgaagatgg ctggtgcagt tcgtactggt ggaaagggta 180
cagtacgcag aaagaagaaa gcagttcaca gagccacaac aacagatgac aaaaggctcc 240
aaagtacctt gaagaggtta ggagtgaata ctattcctgc tattgaagaa gtaaatattt 300
tcaangatga gatggtcatt cattttataa acccaaa 337

<210> 1791
<211> 315
<212> DNA
<213> Pinus radiata

<400> 1791
gtttgccatt gaagaccaat aaataattat tgtgaagcag cagcgtttta atcagagatc 60
cagcaagaag aggaccagga aaaatcattt gcagaacaag aagataatcc aagatgtcaa 120
gcacacgcag ccctcagtgt gggtgcggag aaacttgcgc ttgcgccgat tgcaagtgtg 180
gagttgtgag tattgcgcct ccatccgacc aaacaagtgg gggacatgca tattgcaagt 240
gtggagaaca ctgcagctgc aatccatgta actgttcaaa gattgacgag actgttagtg 300
ggaaatcctt ctgta 315

<210> 1792
<211> 376
<212> DNA
<213> Pinus radiata

<400> 1792
gttttatcat gcggatccag tgcgatgcct gcgagcaggc agctgcttca gtgatatgtt 60
gtgcagacga ggctgctttg tgcagggagt gtgatataaa agtccacaag gccaacaagc 120
ttgccagcaa acacaagaga ttgcctcttg tcggaacttc cccaaagctc tctcgctgcg 180
acatttgcca ggatagggca gccatcgttt tctgtctcga agatcgtgct atgctgtgcc 240
aagactgcga tgagtccgtt cattctcgcg acacattagc agcaaaacac caaaggttcc 300
tggccactgg cattagggta ggtctcaatg ccctgtcatc agaatctccg ggctcaagcg 360
aatttgacaa acagcc 376

<210> 1793
<211> 407
<212> DNA
<213> Pinus radiata

<400> 1793
gggaattccc attctgcaca tgcaatggac aatggaatga tggtatggat agttttagca 60
ggggtagtgg caatggcagt gtggtatctt ttggtacagc accaacagcc taagcagagc 120
cacaatgttc cttgggagac tcttccaccg ggggctgtgg gatggccctt tctcggagag 180
atcatctctt tctatttccg aacaccggat tttgtgaagc agcggcgggg aaggtatggg 240
aatttgttta gaacgttcct gataggatat ccaatggtaa tctcaacaga tcctgaggtt 300
aacaagttta ttctgaataa tgatggccgg ctgttcgttc ctgcatatcc gtcgcattgg 360
tcacagataa tcggagagtg caatatcttt gctgctcgtg gagactt 407

<210> 1794
<211> 532

<212> DNA
<213> Pinus radiata

<400> 1794
cctgggtgcc ttcgtcgctc acttcacaat caagttgaaa gtgaaatcaa tcgatctgaa 60
ggtgaaggtg aaggtgaagc gtattctcat tcgcctcaca ccgccatgga cattacagca 120
cggcagatgt tgcagttgat tcgccaccat ttgctggaag aggaagacga aatggatgtt 180
cttgaggtag gggaaatta tccattctcc tcatcatcat cttcattatc cttctctccc 240
acagtgagct ccgatttttc ccacgccact gccagtggcc catgccaaac cagcgacagc 300
acatcattat cagaagagaa tgagagtgca caaccctctt ctgcttcttc ttcttgtgta 360
tccactgttt tacgaagcgc agaggcggta aatgtaaagg taatgccaca gccacagcca 420
caggaggagg acagtcgaga gaccatcaaa gacaggcact acagaggagt gaggaagcgg 480
ccatggggta aattcgcagc tgaaatcagg gaccccgcca cgaagggggc ca 532

<210> 1795
<211> 502
<212> DNA
<213> Pinus radiata

<400> 1795
tgcataccat cattgtaatg gaggtgaaag gaataggagt gggattctta ttaagcaatg 60
gaaggttacg ctgcgaataa cgatgcagaa ctttgagcaa aacccttcaa gtggaacaga 120
agttgttcta tttcgatctc aaggaaaacc cccgaggtca ataccttaaa atctctgaga 180
agacctccgg ctcacggtct acaataattg tgcccattgg tggagttgca tggttcctcg 240
atctctttaa ttattatgtc gacggagatg acgaggaagt tttgagcaag gaattgcagc 300
tggatgccaa ggtattttat ttcgatgttg gggtgaataa aaggggtcgg ttcttgaaga 360
tttctgaagc atctacatcc tacagtcgca gcacaatcat tgtacctgta ggaaacacaa 420
gaaaagatgg ttgggcagca tttagaaata ttttaggaga gataaatgaa gcttccaaca 480
agcttctggc ccatccgaac at 502

<210> 1796
<211> 476
<212> DNA
<213> Pinus radiata

<400> 1796
cgaaactcga atcgatatgc tttgtggccg gttcaaatat ttgagcnggc ttagcttctc 60
tggttcagaa atggcggact aaagtaatag tgtgccccga ggtctggtgt tcgaatctcg 120
ttggcgtgaa aggtcaaatt tttctctcga gtttcattga ttctgaaaaa ctggcatagc 180
tatggcgatg agcaatggga gattgtgtga agatttggat aggattaagg ggccgtggag 240
ccccgaggag gacgcgtcgc tgcagaggct tgttcagaaa tacgggccga ggaactggac 300
cctgataagt aaaggaatcc cggggcgatc cgggaaatcg tgcaggctac ggtggtgcaa 360
tcagctgagc cctcaggtgg agcacagacc ttttaccccg tccgaggatg ctgctattct 420
gcaggcccac gcgcagcacg gcaacaaatg ggcaacaatt gcccgagccc tccccg 476

<210> 1797
<211> 509
<212> DNA
<213> Pinus radiata

<400> 1797
ttccagacct tttgcatctt cattattctt ccgcctgtga aaagatgggg agatctccgt 60
gctgtgagaa ggctcatact aacaaagggg cctggactaa acaagaagat gaccgcctta 120
tcgctcacat tcgagcccac ggcgaagggg gctggcgttc tcttcccaag gccgcagggc 180
tgctgagatg cggcaagagc tgcagactgc gatggataaa ctacctgcgt cccgatctga 240
agcgtggaag cttcaccgaa gaagaagacg agctcatcat caaactccac tccttcgttg 300
gcaacaagtg gtctttaatt gcagggagat tgcccggacg gacggacaac gagataaaga 360

actactggaa cacacacatc aaaagaaaat tgctgagcaa gggactcgac ccccaaaccc 420
atcgtccact aggccagcca aacaataccc ccgtcactcg gcctgttccc gagcacgaaa 480
ttccggcatt ccagaaccct gcaacgccg 509

<210> 1798
<211> 247
<212> DNA
<213> Pinus radiata

<400> 1798
ccagactatc atcgctgcct ctatggcatc tcctctaaca ttatcaaatg gccactatcc 60
gtttcagtcc gagttcaagg ggtccgtggt tcgaatcccg cagagggcat tttccttcgc 120
gcctgcaagc ccgggcgctg accgtcgtcg cagaggccaa gaaggccgtt gccgtgctca 180
aagggaattc acaggtcgag ggtgttgtca gtctctcgca ggaagacagc ggtcccacaa 240
cagtgaa 247

<210> 1799
<211> 147
<212> DNA
<213> Pinus radiata

<400> 1799
tcattattct tccgcctgtg aaaagatggg agatctccgt gctgtgagaa ggctcatact 60
aacaaagggg cctggactaa acaagaagat gaccgcctta tcgctcacat tcgagccccg 120
gggaaagggg ctggcgttct cttccca 147

<210> 1800
<211> 361
<212> DNA
<213> Pinus radiata

<400> 1800
cttcagtttg cattgaagac caataaataa ttattgtgaa gcagcagcgt tttaatcaga 60
gatccagcaa gaagaggacc aggaaaaatc atttgcagaa caagaagata atccaagatg 120
tcaagcacac gcagccctca gtgtgggtgc ggagaaactt gcgcttgcgc cgattgcaag 180
agtggagttg tgagtattgc gcctccatcc gaccaaacaa gtgggggaca tgcatattgc 240
aagtgtggag aacactgcaa ctgcaatcca tgtaactgtt caaagattga cgagactgtt 300
agtgggaaat ccttctgtaa atgtggagag aattgcgcct gtgaaacatg cacctgcagc 360
a 361

<210> 1801
<211> 359
<212> DNA
<213> Pinus radiata

<400> 1801
cgtggctgtt cccaggagag gagagcctca gctgtctcga tctgcgttaa ggggttacag 60
aagaagaatt tcgaagatgg ttagatcttc ttgctattca aagcaaggtc ataggcgtgg 120
gatttggacc cctatggagg atatgattct ctctgaatac attcgaattc atggcagtga 180
tggatggaaa aatatcgcta aacgagcagg tcttaaacga tgtggaaaga gttgcagatt 240
acgttggttg aactatcttc gccccgacat taaacgtggt aacatttctc ctgatgagga 300
ggacctcatt attaggttgc atggccttct tggcaatcga tggtctttga tagcaggac 359

<210> 1802
<211> 475
<212> DNA
<213> Pinus radiata

<400> 1802
agcgtctata gaagagcagg gactaattcc atctttctcc atttctattt ctcttcccaa 60
tcaaaaccat ggcgtctaac ggacagctta atgcaggcac tggctgtgtt ggtgatctga 120
ccaatgttgg agatcgacga ttggagggga aggttgcaat agtaacgggc ggggcagcgg 180
gcataggaga agccattgtt cagttgttca ttaagcatgg agccaaagtc ataatcgccg 240
acgttgcgga gaaagctggc agaaagcttg agcaatccct ttcacccgct gtggcaactt 300
acgtgcactg cgatgtgagc aaagaagagg atgtaagcgc agcagtggat gtggccatcg 360
acaagtatgg tcaactggac attatgtata acaacgctgg aactaacgac agcgttttgg 420
tgaagagcgt aacagagtat gatatggagc aattcgatcg agtgataaat gtaaa 475

<210> 1803
<211> 382
<212> DNA
<213> Pinus radiata

<400> 1803
attactttca gttttgcaag ctggagatga ctttgactgt ccagtatgtt tatcaccacc 60
atcagaggct atcataacca tctgttcaca tgtgttctgt aagaagtgca ttgagaagac 120
attgaaacat ctaaagccac agtgtccatt gtgccgtaag cagcttacag catctgatct 180
ttttagttca ccaaaggttg ctgacgagaa tgaagttaca tcagaaaaag tagccaaaac 240
tggttcaaaa attaatgcat taatagctct attgaaagag tcccaggatc atgatccaac 300
tacaaaatct gttgtatttt cacaatttcg aaaaatgctg gatctcttgc atgaaccttt 360
gaaaagtcag gcttctagtt tg 382

<210> 1804
<211> 533
<212> DNA
<213> Pinus radiata

<400> 1804
atcgcctgga atttgtcttc tgcaagataa tattcaatta atctattgtc gaaggaaatt 60
tgagccgtat aagaggataa tcaaaagaag ccggttgatt tctccgggat taaaggatgg 120
atcaagaaaa ctggaacatc ggagctgatg gcactggctg ccaagctcca gaagggcaca 180
ctctttgcgc caataactgc ggcttttttg gcagttcggc aacgagaaac ctgtgttcga 240
aatgttacag ggatctgatt atgaaggagg cccaagcctc atctgcaatg gccgccgttg 300
agaagtcatt tgccgcgggt tctccgatgg aggaggaggc ccctctttcc aagccagatg 360
ttttcgtcga acaaagccgt gcaccgatct ccccagccgt agtccaagcc tcgtcagttc 420
acttggctga tataggttca tcttcttctc cacaacctcc tgccgaaact cctaaccggt 480
gcttctcctg caggaaacga gtcggtctga ccggcttcaa atgtcggtgc gga 533

<210> 1805
<211> 549
<212> DNA
<213> Pinus radiata

<400> 1805
gagtgaggaa gctgtagatg aaaagcgtgt aaatctgcag caagcagaag gtccggagga 60
gcccagggtt gtaactgcga gcacattaga atccccaaaa agtacagaac aggagaatag 120
tcttgaggtt gaggaagctg gtgacaaaaa gctccaggca catgtgaatg aaacgtcttt 180
gaatgcagat caagaaaatt ccatcaagga gcttcacaac aagtatcctc gttactcgga 240
agaacttttg acgaatatgc tggctgatca ggatggcgat ttgaaagagc tagaagcact 300
cttaaaaaca ttacaacgcc aagagattag agctgctaat cgaaaaatgt caggtccatc 360
atcttcaaag gcaacagata acacagatgt ttccacggaa tcaccaccct caaagctaca 420
gaatgcctct aagggcaaaa ccagaggaaa gagcgccaag aagagagaaa gggatacaac 480
tttatccgta ggtagagttc acaaaacgcg tcgaaaaact gcttccgacg atgtgaaggc 540
cgcttctaa 549

<210> 1806
<211> 397
<212> DNA
<213> Pinus radiata

<400> 1806
gttttgggct ctcatttggg agttacattc aaccaagctc atcacatggc gtccgagaag 60
gaagctgctc ttgctgccac accaccagaa gatgataaac ctacaatatt tgacaaaata 120
ctgcagaagg agattcccag tacagtggtt tacgaggatg agaaggtact tgcattcagg 180
gatatcgcac cccaagcacc tactcacatc attatcatcc ccaaagtaag ggatggcttg 240
actggcctat ctaaggcaga agagaggcat gaggatattc taggtcacct gctatacact 300
gcaaaagtta ttgcaaagca ggaaggttta tctgatggct tcagaattgt cattaacgat 360
ggtcctactg gatgccaatc tgtgtaccat ttacata 397

<210> 1807
<211> 242
<212> DNA
<213> Pinus radiata

<400> 1807
caagatgggc agatcttctt gctgctcaaa agaagggctc aaccgtgggg cctggaccaa 60
aagggaggat atgattctct ccgaatacat tcgaattcat ggcgatggcg gatggagaaa 120
tatgcccaaa agagcaggtc ttaaacggtg tggaaagagc tgcagattac gatggctgaa 180
ctatcttcgc cccgacatta aacgtggaaa catttcccct gatgaggagg aactcataat 240
tc 242

<210> 1808
<211> 364
<212> DNA
<213> Pinus radiata

<400> 1808
caagagtaaa cccgaaggaa tagaagggga aggaggcatc ggcagcgttg ttcctcctcc 60
tctcctctcc tgcatttctc aaactcaaat acctctcctc tcacaatcat ggaaggcgga 120
gtcgtctttg aatctgtgca aaacccactg gatcgcctga acactggaaa tatggaccat 180
ggttgtgccc attacaggag acgatgtcgg attcgggccc cttgttgcaa tgagatctat 240
gattntaggc actgtcacaa tgaagccatg agccatctaa aggacccctt gctgcgccat 300
gagctcccaa gatacaaagt tgaacgggtt atttgttctc tctgtgacac tgagcaaaat 360
gtca 364

<210> 1809
<211> 265
<212> DNA
<213> Pinus radiata

<400> 1809
cttaagtttc agatgcctgg taattcttct tttccaactg gaaacgctgc cccatcaact 60
aaaaatcttt actattcatt tgacttggga gttgtacatt tcttgtatat gtccactgaa 120
actaattttt tagatggaag tgatcaatat gctttcatag agcaagattt gaaaaaggtt 180
gatagaaaca agactccatt tgtagtattt caaggtcacc gtcccatgta tacgactaac 240
tatgaactaa aagatgcgcc tctaa 265

<210> 1810
<211> 346
<212> DNA
<213> Pinus radiata

<400> 1810
cttgaatcga tcttgcctgc ttgtgccgga gcgcgcacag tgtgtggttt gttctcgttt 60
ttcatcttaa agcggcggtt gcaggaattg attgtgtgag gggacgagat gtgtgcagag 120
gtaagtcaga gtgccatggc cgtgcacact atgcagatgg cgagaatgga aatgaagcgt 180
gaaataggag tctgtgagca ggaagcttcg tcggccgtga aggaaacgca tttcagaggc 240
gtgaggaaaa ggccgtgggg gagattcgca gcggaaatta gagatccctt gaagaaaacc 300
agagtctggc taggcacttt tgacactgcc gaagaagctg ccgagc 346

<210> 1811
<211> 353
<212> DNA
<213> Pinus radiata

<400> 1811
cgaaactcga atcgatatgc tttgtggccg gttcaaatat ttgagctggc ttagcttctc 60
tggttcagaa atggcggact aaagtaatag tgtgccccga ggtctggtgt tcgaatctcg 120
ttggcgtgaa aggtcaaatt tttctctcga gtttcattga ttctgaaaaa ctggcatagc 180
tatggcgatg agcaatggga gattgtgtga agatttggat aggattaagg ggccgtggag 240
ccccgaggag gacgcgtcgc tgcagaggct tgttcagaaa tacgggccga ggaactggac 300
cctgataagt aaaggaatcc cggggcgatc cgggaaatcg tgcnagcttc ggg 353

<210> 1812
<211> 185
<212> DNA
<213> Pinus radiata

<400> 1812
tcttgctgcc acaccaccag aagatgataa acctacaata tttgacaaaa tactgcagaa 60
ggagattccc agtacagtgg tttacgagga tgagaaggta cttgcattca gggatatcgc 120
accccaacac ctactcacat cattatcatc cccaaagtaa gggatggctt gactggccta 180
tctaa 185

<210> 1813
<211> 337
<212> DNA
<213> Pinus radiata

<400> 1813
caataaatgg ccgaatgaat taatcaacga tgaaatgaat taatgaataa gctattggat 60
ctaggaaggg ttttgaggct gaaagttttg ggctctcatt tgggagttac attcaaccaa 120
gctcatcata tggcgtccga gaaggaagct gctcttgctg ccacaccacc agaagatgat 180
aaacctacaa tatttgacaa aatactgcag aaggagattc ccagtacagt ggtttacgag 240
gatgagaagg tacttgcatt cagggatatc gcaccccaac acctactcac atcattatca 300
tccccaaagt aagggatggc ttgactggcc tatctaa 337

<210> 1814
<211> 340
<212> DNA
<213> Pinus radiata

<400> 1814
gttcaaggga gacgggatat tcagagtccg atcgccgcca tggccgtaga caccatacag 60
atggcgagag tgggtgtaaa aatgaagatc ggaggaggcg gctgcgagga agaggcgtcc 120
tcggctgtga aggaaacgca tttcagagga gtgaggaaaa ggccgtgggg gagattcgct 180
gccgagatca gagatccctt gaagaaaacc agagtctggc tgggcacttt tgacactgca 240
gaggaggccg cccgagccta cgataacgct gccagaaatt ccgcggggcc aaggcgaaaa 300

ctaattttct tctgtctccc cacaatgaca ttagcaccaa 340

<210> 1815
<211> 433
<212> DNA
<213> Pinus radiata

<400> 1815
ccgctatcct ttccattaca tcccacgtta ggtcacggtt tcgaaccctt gcacggccat 60
tcttctgtta agatggtgag atctccctgc tgcgacaagg ttcataccaa taacaaaggc 120
gcctggacca aagaagaaga cgagcgtctc atagcacaca ttgaagccca cggcgagggc 180
tcatggcgtt ctcttcccaa ggccgcaggg ctgctgcgat gtgggaagag ctgcaggttg 240
cgatggataa actacctgcg tcctgatctg aaacgcggaa gcttttcaga agaagaagac 300
gatctcatca tcaaactcca ctccctcctc ggcaacaagt ggtcgcttat tgcagggaga 360
ttgccagggc gaacggacaa ccgaaaataa aaaattactg gaacacgcac atgaaaagga 420
aattgttgag cag 433

<210> 1816
<211> 225
<212> DNA
<213> Pinus radiata

<400> 1816
atcacagtcg gcctctgatc aaagaagaag ccgaatcaag gtgataattc tgcaaattct 60
gcagatgtag aaactcttct tcctcaggtt gatgaaacag cttctgctga tctgacagtg 120
ttcccaggtt ttgttacccc ttatgtacca tacgggttcc ccatatggca cacttttaga 180
cccacaataa ctcaaacttc caatgtttat aagccaacag ctgta 225

<210> 1817
<211> 337
<212> DNA
<213> Pinus radiata

<400> 1817
gttgctgctg cttctgcttc tgcttctggt actgctgttg ctgcgtcttt gccagtgaac 60
ggtgctgctg gggtcagatc tagtgttgat tcggagcatt cggatataga ggcgtctttt 120
aaagaggccg aatgcagtca ggccattgtt gaaaggaggc ctcggaaacg gggcaggaag 180
cctgccaatg gtagagaaga acctctgaat catgtagaag ctgaaaggca gaggcgagag 240
aagttgaacc agaggtttta cgcactccgc gctgtggttc ccaatgtgtc caagatggat 300
aaggcctctc tgttgggtga tgccatttct tacatta 337

<210> 1818
<211> 390
<212> DNA
<213> Pinus radiata

<400> 1818
gtttgttcga acgatgaaaa ccagctaaaa caaagcgcag ggattggcag gattcgagca 60
gtggtccttg ggcggagtt gatagaagaa gaagaaacct accatataca catacatata 120
ttatatacat agacacatgg gggctccgaa gcagaaatgg acttccgaag aggagggagc 180
tctcaaagca ggtgttgaga agtatggcac tggcaagtgg cggaccattc agaaggaccc 240
tgagtttgga cactgcctcg ccgctcgttc caatgtggat ttgaaggata agtggcgcaa 300
tatgagtgtg agtgctagtg gccaaggttc aagggataag gtaaagactc caagagtaaa 360
agctattgcc tctctgcctt attcatcaag 390

<210> 1819
<211> 367

<212> DNA
<213> Pinus radiata

<400> 1819
attcaaaatg ggaaagaagt tggagctgaa acgcatccaa aaccctaata gttcacgtga 60
ttccttctcc aaatgcaaga ggggactgct aaagaaatcg gtcaagctct ttgttctctg 120
tgatgctgaa gtttccctca tcattttatc tgaaaccgcc aagatttacg agtttgcaag 180
caacaagtcg tgactagctc ttgtgaattc ttctgatcaa gttagagatc catatactga 240
tatataaaag catactttca cattgcaatt ggagcagatc tagatgcaga agtgcaacct 300
tattatacct aaaggccatc agctgcaaat caagacccat tttctatctt ttgagatcgt 360
gatacag 367

<210> 1820
<211> 487
<212> DNA
<213> Pinus radiata

<400> 1820
acgatcttca ccctcggtgc gctctctgct tatcccgatt cccagccaac tgctattata 60
ttcggagtac tgtacttcca gaactggtat cttcaagcac caagaccatt ttctgagctg 120
ttaaagatac tatgagtgat atggatcgtt catcatcaga agattcagtg gattctcaag 180
gtgatgtgaa tgcaaactac aagatggttt tctcggaaga tgaaaaggat ctcataagca 240
ggctgtacaa tctactgggc cagaggtggg ctttgattgc tgggcgaatt cccggcagaa 300
ctgcagagga aatagagaaa tattgtagca ggcgatatat tagtgagtac taggtcacat 360
gggtttctaa tagtcaatga agaagaaggg tagaagcagc cttgcctatc taactgattt 420
aagtttggga tatatatatc gactttgagt gatggccata tcttctgggg tttataagga 480
agtatgt 487

<210> 1821
<211> 319
<212> DNA
<213> Pinus radiata

<400> 1821
tttaagcatt tcattgagtc ttaggtcacg gtttccaatc ctggcaggtc tcattattct 60
gtctctctgg caagatgggg agaactccct gctgtgaaaa aggtcataca aacaaaggcg 120
cgtggaccaa agaagaggac gatcgcctca tcgctcacat tcgagcccac ggcgaaggcc 180
gctggcgttc gcttcccaag gccgcagggc tgatgcgatg cgggaagagt tgcaggctcc 240
gatggataaa ctacttgcgt ccagtctcaa gcgtggaaac ttctcagaag aagaagatga 300
gttcatcatc aaactccac 319

<210> 1822
<211> 320
<212> DNA
<213> Pinus radiata

<400> 1822
gcaaagagtt gcagattgcg ttggctgaac tatcttcgtc ccgatattaa acgtggtaac 60
atttctcccg aggaagaaga gctcattatt cggttgcatc gccttcttgg aaatcggtat 120
gtagagaatc gggggacatg atttattcat gcgccagaat ttcacgattc ctcatcgaat 180
tagtcatgca atgtttgtgc aggtggtctc tgatagcagg acgactgcct ggtcgaacag 240
acaacgaaat caagaattac tggaacactc atatgagcaa gaagccatgg ctgtcaatgg 300
acgaatctca gtccaatact 320

<210> 1823
<211> 338
<212> DNA

<213> Pinus radiata

<400> 1823
gtcgagctcc ttgctgcgag aaaacccata caaacaaagg cgcctggagt aaagatgaag 60
atgaagcact cgttgcatat attcaagccc atggagaagg cagttggcgt tcccttccca 120
aggccgctgg gttgcagcgg tgtggcaaaa gctgcaggct tagatggata aattatctcc 180
gtcctgacct caaacggggc aatttcagcc cagaagaaga tgagatcatt atcaaacttc 240
attctatgtt gggtaacaag tggtctttga tcgcaagcaa attgccaggg cgaacagata 300
atgagataaa gaattactgg aacactcaca ttaagaga 338

<210> 1824
<211> 332
<212> DNA
<213> Pinus radiata

<400> 1824
gccgaggtga ggaggcatta cgagcttctt gttgaggatg tgactgtgat tgagtctggc 60
cgggttgctt tgcctgctta ttctgaaaat tcgtatacac cgcccgaatt gatgtcagat 120
cagttgggcg atctcacaaa acagcaggcg gtttctgtga aggctccctc ggccaaggca 180
tccgaacagg agcgcaaaaa gggcgtgccc tggactgaag aagagcacag actcttcttg 240
atgggattga ataaatatgg caaaggtgat tggagaagca tatcaagaaa ctttgtggtc 300
tcacggacac ctactcaagt tgcaagccac gc 332

<210> 1825
<211> 301
<212> DNA
<213> Pinus radiata

<400> 1825
accgtcgaga gagcttcata tctaaccaat aataacacct gtatggcttc atagcttcac 60
agcaacaggg caccatgggc cgagctcctt gctgggataa aatgggagta aagaaaggcg 120
cctggactct agacgaagat aaaatactcg tcgattacat taccaaacat ggccatggca 180
actggcgcgc actgcccaag caagcagggc tcctgcgatg tggaaagagt tgtcgcctgc 240
ggtggacgaa ctacctgata cccgacatca aaagagggaa ttttattcca gaagaggaat 300
a 301

<210> 1826
<211> 498
<212> DNA
<213> Pinus radiata

<400> 1826
tttgcatcca attcttcctg tatcatctaa ttgctcagtc tagcaattac gcaatctcgg 60
tccccagtca tgtctgacga agaggttaat gcaactgctg cctctgtggg caatctgacc 120
ttgctgctgc atgcatctca gcgacgattg gaaggcaagg tcgcaataat aacgggcgga 180
gcatctggca taggagaagg catcgttcgg ctcttcacaa agcacggagc cagagtcata 240
atcgcagaca ttgcagatga aaccggcaaa attctggccg aatccctttc gcctccggcc 300
acttacgtgc gctgcgatgt gagcaaagag caagacgtca gcgctgcggt ggatttggcc 360
atggagaagt acgcgcagct ggatatcatg tttaacaacg caggaatcgt cgatacggtt 420
aatgtttcaa ggggagtggc agagtacgag atggagcagt tcgaccgagt tatgagcgtc 480
aacgtcagag gggtgatg 498

<210> 1827
<211> 551
<212> DNA
<213> Pinus radiata

<400> 1827
cgtggctctt cccggcagac ctagtaagcc gactactgta aatttattct tttagggtta 60
cagaagaaga aaatacaaga tgggcagatc tccttgctgc tcaaaagaag ggctcaaccg 120
tggggcctgg accaaaaggg aggatatgat tctctccgaa tacattcgaa ttcatggcga 180
tggcggatgg agaaatatgc ccaaaagagc aggtcttaaa cggtgtggaa agagctgcag 240
attacgatgg ctgaactatc ttcgccccga cattaaacgt ggaaacattt cccctgatga 300
ggaggaactc ataattcggc tccatcgcct tcttggcaat cgatggtcgc ttatagcagg 360
aagattacca ggtcgaacag acaacgaaat caagaactac tggaacactc atatgagcaa 420
gaagctgctt ccattgaacg aatctgaacc caagactttg cctgtcccca agaggaggtc 480
gcaatctcct tctcccctgc aaaatcgagt ctttaaagcc aaccctgtga aaataacaac 540
ggtggtcagt c 551

<210> 1828
<211> 256
<212> DNA
<213> Pinus radiata

<400> 1828
ctgaaattcg gatgccgaaa tcccatgaga agatatggct gggatcctat aataccgccg 60
agcaagccgc ccgtgcttac gacgccgctg tgtattgtct gagaggaccc gccgccaaac 120
tcaattttcc agaaaccgtg ccgggtattc cgtctgcgtc ttccctttcc cggcagcaaa 180
ttcagcatgc agccaccaga tatgccttgg gtgaaatccc tttgatttcg ccctctctgc 240
aaaatattga ctcgag 256

<210> 1829
<211> 372
<212> DNA
<213> Pinus radiata

<400> 1829
gcagattctc aacagaattg ggaaagtttt gtgaatattg aagatggctc agtgccatga 60
aatcattgaa agtcgttgca gagacagcca tggcgcatca gatctgaagc tgtttgccat 120
ggccgcggtt ctggtgacga gcaccggagg agtatgtttg ccggttctgt ttgccagata 180
ttcccgaggg ctcaaatttt acggcactct tctggtactg gtgaaatgtt tcgctgccgg 240
agtgattctg tccacaggat ttgtccacgt catgccggaa gccttccgcg ctctggaaag 300
cgactgcctg ccggatcatc catggcacca gttcccgttc gccggactcg tggccatggc 360
cggggcaatc ct 372

<210> 1830
<211> 486
<212> DNA
<213> Pinus radiata

<400> 1830
agcgggtggt gatttagccg agggcgaaga ggaggacgaa gaagggcttc gtaacaaacg 60
tggcgattga tcctacctta gcctgaaaat gctgtcagga ggctacgcaa ccagatccga 120
cactactact gtcaacaacg gatccgctaa tggcccaata ggaagtgctc cccaagaat 180
taactcgata caaaataata atccaggagc tgtcaggcct ggctggggaa ccatgcccct 240
tcacatgaat ccttatcatc cccaatcaat gcctcttccg ccccccaatg gtatgcaggg 300
tcagcttgtt tgcagtggat gtagaactct tcttgtttat ccgcaaggtg caccaaatgt 360
ttgctgtgca gtatgcaaca cagtcactcc agttccacct cctgggacag aaatggctca 420
gctaatctgt ggacgttgtc gtacattgct aatgtatgtt cgtggagcaa ctagtgttca 480
gtgctc 486

<210> 1831
<211> 330
<212> DNA

<213> Pinus radiata

<400> 1831
gtttttccgc aggaagtttt gatttgagta ggaaatcctt tggcctcctg gagctttgat 60
ttgctcagga aaccctagcc cttcggttcc tgaagctttg cttttcgtag gaaacccttt 120
ggcaccggta ggcgatggct cccagcaaca acagaagaga cgacaatgga gcacgaggag 180
ttcacttcag ggcgtcagg aagaggccct ggggtcgata cgcggcggag attagggatc 240
catggaaaaa agttcgtctt tggctcggca cctttgacac ggccgaggaa gccgcccggg 300
cttatgacac tgccgctatc tccctcagag 330

<210> 1832
<211> 413
<212> DNA
<213> Pinus radiata

<400> 1832
aaatctgact atcgggatag tgatgatgaa ggaggaggta ctgttcgaga aggaaaggat 60
ctgcaaacct caaatttcat cgattatttt ggtcaaagta atcatacaga agaagcagaa 120
aatgagcatg atgcatcagt ggataccaaa gggcccctgg aatccagcaa tgaagtcggc 180
catcctacca catacccga atcttcttca ttgtcagcgc aaggctctga gcctcgagtt 240
ttttcctgta attactgcca gagaaaattc tacagctcgc aggccttagg aggccatcag 300
aatgctcaca agcgagaacg caccttggca aagagggggc aaagaattgg ggcttttcaa 360
cacaggtaca taagcatggc atccctgcct ctccatggct ctacagaatc agc 413

<210> 1833
<211> 260
<212> DNA
<213> Pinus radiata

<400> 1833
gctatttgca gcatttcctt ccatccgtac ccaaaagatg ctgacaaaca tttactagca 60
agacagactg gactgaccag aagccaggtt tcaaattggt ttataaatgc acgtgtccgc 120
ctttggaaac ccatggtgga agaaatgtat atggaggaac ttagagaggc cgaaacacag 180
aatcatgcag cagattcgaa ggtaacaaca gaaagtggtc aaaacaatga agaaacggtg 240
tcaaaggaag gagctgggaa 260

<210> 1834
<211> 338
<212> DNA
<213> Pinus radiata

<400> 1834
aattgaatcg gccatggttt tgtatgaatt gttacatgta cagcagattc agcaaataca 60
gcagcagcag tttcaattgc aacaacaaca aatagcagca gcggcttcaa tccaccatat 120
gggtcgaaac cctctgggtc ccagagctca gcccatgaaa cttcatggca gcagcctatc 180
aaagccggct aagctttaca gaggcgtgag gcagcgccac tggggtaaat gggttgcaga 240
gatcaggtta cccagaaaca gaaccaggtt atggctgggg acttttgata ctgcagagga 300
agcggccatg gcttatgaca aggctgctta caggctga 338

<210> 1835
<211> 240
<212> DNA
<213> Pinus radiata

<400> 1835
gcttattgga atgcctgaca ctaactatgg aagcgaacag acaaatgctt gcaaaaaaca 60
gaaaagaata cgttccaagg attcaggaga agatggtgaa gatagacaga gataacatcc 120

tttcattgtt actgagcccg gtgaacttgc aagagggaaa aagaatgggt tagactatct 180
ctttgatctt tatgaacagt gcgggaaatt tctgctggat gtgcaacata ttgcgaagga 240

<210> 1836
<211> 349
<212> DNA
<213> Pinus radiata

<400> 1836
gataaatcca gatgaggttt tagcagtcaa ctttgcattc caactgcatc acatgcccga 60
tgaaagtgtg tctacaaaga acctacgtga ccggcttcta aggatggtga agtctctcaa 120
ccctaaagtg gtcacagttg tagaacaaga ggttaacact aatactgcac ctttcttacc 180
ccggttcatg gaagcattaa actattactc atcagtgttt gagtctctag atgctacaat 240
tccaagggat agtagagatc gtatgaatgt tgaaaaacag tgccttgccc gagacatagt 300
gaacataatt gctttgtgag ggggaagaaa gggttgagag gtatgaagt 349

<210> 1837
<211> 457
<212> DNA
<213> Pinus radiata

<400> 1837
gaaaagtatg ttcaagtttt ttccattcaa acatatcctt gttggaggga ttcggaaccg 60
tctccggtcg tcttcaacca gtctgacccc aactcgcagt ctcttgtact ctcaaagtat 120
aaatttttca agaatggcta attcgaatcg aggatgcttc atatgcggtt ctgaggatca 180
tcgaaaagcg gactgtccca cacccgacaa acttacctgt tatcagtgcg gtggagtggg 240
ccatcagtct cgggactgct cttcctccga gaagcgcaaa acctgctaca aatgtggtga 300
agagggccat atctctcgcg actgttccaa tgcgccaacc tctgagtatt ccggtggtaa 360
ttccggcacc gaatgttata aatgtggtaa attgggtcat atctctcgct cctgtccgac 420
aaatgagtca actgctgact atgctagggc tcctagc 457

<210> 1838
<211> 395
<212> DNA
<213> Pinus radiata

<400> 1838
ctgaaatatc gttaaattca ctcttttggt ctcagttact gcgtcgccaa tatggaaaat 60
ctcccccaatc agcaacctga ccttgaaatt gctcaaacac acgaggatcc cgggtcccgc 120
caatttaagg gaattcgact gcgaaaatgg ggaaggtggg tatcggaaat ccggataccc 180
aaatctcgag agaaaatatg gctgggctct tacacgactc ccgagcaggc tgcccgtgct 240
tacgacgccg cagtgtattg tctgaaaggg cccaacgcca aattcaactt tccggaaacc 300
gtgcacgaca ttccgtctgt gacttctgtt tcccgtcagg aaattcagca cgcctccctc 360
aaatatgcct tgggccagcc ccctccgagt ttgca 395

<210> 1839
<211> 395
<212> DNA
<213> Pinus radiata

<400> 1839
gctaacacag cccttatata tcatcatggg aagcttcttg cacttcaaga ggcagataaa 60
ccttatgcac ttagagtcct tgaggatggt gatttgcaaa ctcttgggct aatggattat 120
gataataaat tagcacactc cttcactgca catccaaagg ttgaccctgt tacaggggag 180
atgtttacat ttggttacca acacaagcct ccctatttaa cttaccgggt tgttacaaag 240
gagggaataa tgcttgatcc agttcctata acacttccca aacctgtcat gatgcatgac 300
tttgccataa ctgataacta tgcaatcttc atggatcttc ctctctattt ttctccaaag 360

gatatggtaa aaggtggact catcatgtct tatga 395

<210> 1840
<211> 468
<212> DNA
<213> Pinus radiata

<400> 1840
ctcatttcag tgattcactc actgaaatta ttgttagaat cactgttttg gccccagagc 60
ttctgcgtcg ccaaatatgg agatacgcct ccagcaggaa aacgaccagg acattgctcc 120
gccacacgaa gatcgcgtgt cccgccaatt taaaggagtc cgaccgcgta aatgggggat 180
atgggtatcg gaaatccgga tgccgagatc tcgacagaaa atatggctgg gctcgtacaa 240
aaagcccgag caggccgccc gcgcctacga cgccgcagtg tattgtctga gagggtcgaa 300
cgccaagttc aatttcccca attctgtgcc cgacattccg tctgcgtctt ctctttcccg 360
ccagcagatt caactcgctg ccgccaaata tgcgttggat cagtcccctt caagcccgcc 420
gtctctgaac aataataaag aggaacccgc gtcaccgtcg cagtcgtc 468

<210> 1841
<211> 378
<212> DNA
<213> Pinus radiata

<400> 1841
aaacaataca gtcgacattg ttgcagcatc tagagctatt cgtgaaccac gtgtagtggt 60
acaaacaacc agtgaaattg acatccttga tgatggatat cgatggcgca agtatgggca 120
gaaggtggtg aaaggaaatc caaatccaag gagttactat aaatgcacaa atgctggatg 180
tccagtgagg aaacatgtgg aaagagcatc acatgatcca aaagcggtga tcacaacata 240
tgaaggaaag cataaccatg atgtgcctgc tgccagaaac agcagccatg ataatgctgc 300
aaaagggaat ggggcagctc ctctagcaat gcagaataat gtcccagcgc ctatgaatgc 360
tataccacga cctgttcc 378

<210> 1842
<211> 382
<212> DNA
<213> Pinus radiata

<400> 1842
ctcccacctc catttcactc tgccgagtcc attactctcc ctatcgtcga accacgtctt 60
tctcatcgac caacaatgac tcagcagaca acctcaccaa cagttagtcc cgccgcactt 120
gctcttccca cttctgcctc atccacatct gcaaagtctg cagctgttcc agtaccagcc 180
caagccaacc ctcgcaaacg tcctcgttcg gatctctccg cagaggagaa gcgagaggct 240
cgtgctcatc ggaacagaat cgcagctcag aactctcgtg acaaacgcaa acagcagttc 300
actagtctcg aacaacgagt catcgacctc gagaacgaga accgccaatt acgagacgct 360
ctcgccactt cgcagccgaa cc 382

<210> 1843
<211> 314
<212> DNA
<213> Pinus radiata

<400> 1843
catagaaaga gctttatgtg tcctgaattt gaaccctctc ctcgttttaa agaatccgag 60
ctttgcaaac acgccttgag ctagactccg gaatacccca gcaacaatcc gacatggcta 120
aatcctcgca aaaccagaac ccccgcaaca gacgcgaaaa ccgcttacgg aagtcacggc 180
agttcaaggg aatacgaatg agaaaatggg ggaaatgggt gtcggaaatt cgaatgccca 240
attccactgg gagaatttgg ctaggctctt atgacacgcc ggaaatggct gcccgcgcct 300
acgattttgc ccgg 314

<210> 1844
<211> 384
<212> DNA
<213> Pinus radiata

<400> 1844
ccggttccta gttcgaatcc ttgccctaac gcagtcccgt gttttaagac tcaatcttta 60
gtgactcccc cgcaacatgg ttaagccctt gccaaaacag agcagcccga gcggatcgga 120
aaactgccaa ataaagtcgc ggcagttcaa aggaatccga ctgagaaaat gggggaaatg 180
ggtgtcggaa attagaatgc cgaattccag ggccaaaatc tggctgggct cctacgactc 240
cccggaaaaa gctgcccgcg cctacgactt tgcgttgtac tgtctaagag ggtcgaaggc 300
cacattcaat tttcccgact ccccgccgga aattccatgc gcctctgacc tgtcgccgcc 360
gcaaattcaa gccgccgcgg ccag 384

<210> 1845
<211> 171
<212> DNA
<213> Pinus radiata

<400> 1845
acatcccgtc ttcactttgt tgatcaacaa ttacgacaac agcgagctct tcagcagcta 60
ggaatgatac agcagcatgc ctggagacca caaagagggc ttccagagag ggccgtttct 120
attctccggg cttggctatt tgagcatttc cttcatccgt accccaaaaa t 171

<210> 1846
<211> 436
<212> DNA
<213> Pinus radiata

<400> 1846
agattgatca aacacaaata ccgtaaaatc gcagcgaaga tccaaaattc caccatgggg 60
actgtggcgg aagatggcag caagggttac acggccgtaa atccccatcc caaaaagggc 120
gtcgcctcgt ggctggtgga catggtggag aaactggtgg ttgaaacttc tgcgttgtat 180
agttcgaaga agcctctgca ttttcttttg gggaacttcg ctccagtctc ggaaactgcc 240
cccaaatcgc acctgcatgt tgttgggcaa cttcctagtt gcttggatgg agagttcgtg 300
cgcgttggtc ccaatccgaa attcgcaccg gtagctggct atcactggtt tgatggagat 360
ggaatgatcc atggtctgag aattaaagat ggtaaagcca catatgtgtc acgttatgtg 420
aagacatcac gcttga 436

<210> 1847
<211> 303
<212> DNA
<213> Pinus radiata

<400> 1847
ggaggcgagc cattctttgt tccccgctcc tcggatcctg cggcgccgga agacgatggc 60
tacatcctca cattcatgca caacgaggag acctcgaagt cggagcttct tattttggac 120
gccagatctc cgaccctgga acccgtggca acggtaaagc tgccgtccag agtcccatac 180
ggattccacg gcacattcat cacttctgaa gagcttgcca agcaggtgcc gtgaagacgc 240
gctgtcttcc gcccttcttg ctttcttgat taccctacaa cacctggttc tgtactttct 300
tta 303

<210> 1848
<211> 551
<212> DNA
<213> Pinus radiata

<400> 1848
gcgatttcga gtgctgtaag caggcaacga cgcctgtttt gctttagagt ttaacagaaa 60
agaagaatgt gtggaggtgc tatcatctcg gactttataa taccccctgc gagccgaggc 120
cgccgggtga ctgccaggga tatatggccc gattttgata agttctctga gtttattaat 180
ggaggtgctg cggtggagtc ctttgatgtc agcgttgatg tcgatgacga cgaggaggat 240
tccgacgatg acgagttcct cgattttgag gagagctatc agaacaagaa gaagaagcag 300
caacagccga tatcccccac caagggtttc gagcttcctt tagctcgggg tcttgatgga 360
ccggcggcca agagcgcggt gagaaagagg aagaatttgt tcagagggat caggcaacgt 420
ccatggggga aatgggctgc agagatcagg gatcccagaa aaggcgctag ggtttggctg 480
ggtaccttta atacggcgga ggaagctgct cgggcttatg atgcagctgc acgaaagatc 540
agaggtaaga a 551

<210> 1849
<211> 527
<212> DNA
<213> Pinus radiata

<400> 1849
gaacagtcga gcctcgttgc accctcctca gtcaccacaa acagcactgc agcgaaagga 60
caagggcctg ctgatactga gtctcaacca gacctaactg ctgccgagaa gccttcaatg 120
gagcccaaga aaccgccaag aaagaaaggt cagaaacgaa acagggagcc cagatttgca 180
ttcatgacca aaagtgatgt ggatcatttg gaagatggct atagatggcg caaatatggc 240
caaaaggctg tcaaaaacag ccctttcccc aggagttact atcgttgcac aaatggaaaa 300
tgctcagtga agaagagagt ggagcgttcg tcagaagatc caggaattgt gattacgaca 360
tatgaaggac agcattctca tccaagcccg gccatattgc gtgggtcagc agaatcccaa 420
tcccactttt cagatcaaag attgaattct cccttcactc aaacgccatt gatcagattc 480
cctccccacc caatgatgat gagtagtact aaccaggtcc cagctgc 527

<210> 1850
<211> 226
<212> DNA
<213> Pinus radiata

<400> 1850
gagagaaggt ggaagtacag caatagaaag tgacttgaaa agtgaaaatc ttgaagaaaa 60
agaagcgaag gcaagtgaaa atgaagataa gatgctgaaa aaaccagaca aattgttacc 120
ttgtcctcgc tgtgacagtt tagataccaa attctgctat tacaataatt acaatgtgaa 180
ccagcctagg catttctgta aaaattgcca gagatattgg actgct 226

<210> 1851
<211> 236
<212> DNA
<213> Pinus radiata

<400> 1851
atggccggag accacgcttg ccccgtctgc caagcgactt ttactcgccc gcaacatgtc 60
gcacgacaca tgcgctccca caccggcgac cgcccgtaca agtgctccat ctgcaccgac 120
tcgtttggcc gcagcgacct cctgaagcga catgagaaga agatgcactc aaacgggcag 180
agcgcagcga gcacgcccac tgggccaggg cagaacaaat ttgatagcca gtttac 236

<210> 1852
<211> 455
<212> DNA
<213> Pinus radiata

<400> 1852

ccacaacgaa taaatgcaaa tgctgttctg gatagctgaa cccaccaact catcagcata 60
aatttctcca gcagaaatcc agcctcccac tcgcgcgcat aaatttcttc aacggaaatc 120
cagccggccg ctaaattctc tgcactgaca aaagcccaca ggctaacaga ttccgacatg 180
gatcgcccca ttccctggcc atctgcatac acagaaatct agactttgaa aatctttcta 240
aattctgtat ggagccctga actgtaggtg cagggttcga ttaccgctat ggatgaggcc 300
gcgcctgcca aggctcctct cccctgtgac tactgtggcg aagcgaatgc agttctctac 360
tgccgagctg actccgccaa gctctgcctg ccatgtgacc accacgtcca ttctgccaat 420
gccctgtcca agaagcatgt ccgatcccag ctctg 455

<210> 1853
<211> 324
<212> DNA
<213> Pinus radiata

<400> 1853
cttgaatgtt gttgcatgtg agggatcaga aagattggaa aggccagaaa cttacaaaca 60
gtggcaggga cggactcagc gtgctggatt tgtacagctt cctctggatc gtagtattct 120
ctctaaatcc aggataaggg taaaaaccat ttctatcata aggattttgg agtggacgaa 180
gatggtaatt ggatgctatt gggctggaag ggaagaacta ttcatgctct gtctacgtgg 240
agaccttcga catgatttgg cgatggagaa tttttctctc tgcaaagagt aaggcatgat 300
acatatttgt gattctgcca aggc 324

<210> 1854
<211> 316
<212> DNA
<213> Pinus radiata

<400> 1854
acgggctctc caacaattag gcatgattca gcagcatgct tggaggccac agagaggact 60
tcccgagcga tctgtttctg tcttacgggc ttggctattt gaacattttc ttcatccgta 120
tccaaaagat gcagacaaac atatgctcgc gagacagact gggcttacca gaaatcaggt 180
ctcaaattgg tttataaatg cacgtgtacg cctctggaag cctatggtgg aagagatgta 240
tgtggaggaa acaaaggagg cagaagtaga ccatggatca aatgataaaa caggtaagga 300
gagtggcgag aaaaaa 316

<210> 1855
<211> 393
<212> DNA
<213> Pinus radiata

<400> 1855
cggaaaatca ccccccttgcg ttgcgcacca tcgccccgac gtaccgaagt agcggacacg 60
gttccgtaat attgtacagg cgcgcgccca cccccacagc gacgacagac acacattctt 120
taacgatcca tctccttctt gacgaaacct ccaccccccaa cgattgacga tgcccaaggc 180
ggacagccag agcggatccc gagattctac ggtcggcccc gctcaaggta cgctgaagcg 240
gaaccaggcg tgccaccaat gtaggaagcg gaaactgaaa tgcgacgcca aaagaccttg 300
ctcgacttgt gtgaggtcac acaaccacgc catcacccac gctggtccag acgctgtttt 360
gccgcccttc ccagaatgta cctttgacga agt 393

<210> 1856
<211> 359
<212> DNA
<213> Pinus radiata

<400> 1856
ggaaagtcga acatagaaat cttctgtgca ttcatagaat aaatattcta caggctgcac 60
tgtaatttag gcgagaaatc gaataaaata tacatttgtt tgtttacgat ggagttggca 120

gatgagcatt ccatcctccg ctataagaaa cccaagctct ccaagaatgt cgtttccgag 180
cgccgccgaa ggcagaaaat gaacaagctt ctctacactc tgagggctct ggttcccaat 240
atttccaaga tggacaaggc atcgatttta gcggacgcca tcgaatatgt ggagaagctg 300
aagcaacagg tggagagagc tgagtctgac gttcaatcca ccaacgtctc ggctctatc 359

<210> 1857
<211> 459
<212> DNA
<213> Pinus radiata

<400> 1857
ggaaggcaat gagagtgatc tcctcaaggg aatgaagaag gcaaggcgtg agagaggatc 60
aacagcaaag gaacggatta gtaaaatgcc tccctgtgct gctggaaaac ggagttctat 120
ctacagaggc gtcacaaggc atagatggac aggacgatat gaagctcatc tttgggacaa 180
aagtacttgg aaccagaacc aaaataaaaa gggcaagcaa gtgtacctag gtgcctatga 240
tgaggaggag gctgcagcca gagcttatga ccttgccgct ctgaaatatt ggggtcctgg 300
aactctcatt aattttcctg ttagtgacta tgctagagat attgaagaga tgcagagcat 360
ttcaagggaa gatttcctgg cttctctcag acggaaaagt agtgggtttt caaggggaat 420
gtcaaaatac ccgtggactg gccaagcaat cacaaactg 459

<210> 1858
<211> 368
<212> DNA
<213> Pinus radiata

<400> 1858
aaaaaggcgt cagaatgggg tgagtctgta gtaagtacaa gcgaaaacag taatgacttg 60
gatcctccta cttattctga aacctcttcc cctgctcaag gatctgatcc tcgggttttc 120
ccctgtaatt tctgtcaaag naaattctac agttctcaag cattaggagg tcatcaaaat 180
gcccataagc gtgagagaac tttggctaga agggcacaga gaatggggtc ttttgcacaa 240
agatattcaa gcatggcatc acttccactc cacggttcct cggaaacaag ttggacgccc 300
agtcggtttt tagggataaa agcacattct ttgattcaca aacctttccc tgaaggtgat 360
aacctgcc 368

<210> 1859
<211> 497
<212> DNA
<213> Pinus radiata

<400> 1859
ggcaagaccg tctggaagag gatgttacgg gaagagagca aaagcgttac cgtgtctgcg 60
acccggagct ttcggagcga accgtggtag taatgggggc agacccgcac gaatccggag 120
tccgtctcgt gcacacgctg atggcctgcg cagaagcggt gcagcgcggt aatttggcca 180
tcgcgcggga aatggtgaaa gaagtgagaa ttctggcttc agcacagggc ggggcaatga 240
gcaaggtcgc cacatatttt gccgaggctc ttgcccggcg aatctatggg tttctccctc 300
aggacacctt gcggttcaac cagaacgacc ccttgtccga ttttctgcaa tttcatttct 360
accaaacctg cccctatctc aaattcgcgc acttcatagc caaccaggcc attctggatg 420
ccttctccgg gcaccaacag gttcatgtca tagatttcaa tctgaaacag gggatccaat 480
ggccggcctt gatacag 497

<210> 1860
<211> 254
<212> DNA
<213> Pinus radiata

<400> 1860
gagtaggagg cggcggcgga ggcaagggaa gcccgtacag aggcgtcagg atgagaaaat 60

ggggaaaatg ggtttctgaa gtgagggagc cgaacaagcg gtctcgcata tggctcggct 120
cctattccac tcccgaggcc gctgccaggg cctatgatac tgccgttttc tacctcagag 180
gaccctccgc gactctcaat ttccccgagg aagcacgtaa ggagcagcag agcgacctca 240
ggctttcgca gctc 254

<210> 1861
<211> 515
<212> DNA
<213> Pinus radiata

<400> 1861
catcttctcc ttacaaaagt agctcccctc ttgactccag gcggtcttcc cagtccataa 60
cgatacggat tacacccacg caccccatgt cttccacctc atcgtattct tctccctccc 120
ctgacacacc atcacagtct gccgctgtgc gcccgacatc tacccgagac gattcttccg 180
tcatggaacc tccacgtaag cgagccaggg ctgatcttaa cgctgaacag cgaagagagg 240
ccagggccca ccgtaatcga attgccgctc aaaactctcg cgataaacgc aaggcgcaat 300
tcacttacat ggagcagcgc gtggcacaac tggaggaaga gaaccaacga ctacgagcag 360
gcatgggcct ctctcaattc acgccagccg acaacgacaa gttcgtcagc ctcgagagag 420
aatcagtaca ggcccgcgag aacagagagc tcaaggagag gatcaagagt ctagagagcg 480
ggtggtcggc cgtcatcaaa gcgttgcagg cctca 515

<210> 1862
<211> 532
<212> DNA
<213> Pinus radiata

<400> 1862
agtttgctgc tctacacctg tggttgcaag cgtttggagc ttcaagaggc aaggtttggt 60
ctgtgattaa ttcatggcgg cggcggcgac gactacgttg ggttgtgcga aggtggattt 120
gatacggctc atgcggctgc gagagcttac gacagggcag ctatcaagtt tcgaggagtt 180
gaagctgata taaattttac tctcaccgac tatcaagaag atttagacca gacgagcaag 240
ctctctaaag aagagtttgt gcatattctc cgtcgtcaaa gtactggttt ctctcgtgga 300
agttccaagt atagaggcgt taccctgcac aagtgtgggc gatgggaagc cagaatgggt 360
caattcctag gaaaaaagta tatatatttg ggattatttg acagtgaaga ggaggctgca 420
agggcatatg ataaggctgc tatcaggtgc aatggaaagg aggcagtaac gaactttgat 480
cctagcttat atgaaaaaga aattcttgaa gaaagaagag agagtcagac tt 532

<210> 1863
<211> 497
<212> DNA
<213> Pinus radiata

<400> 1863
ggcacgagcn cttctgattt tttggccgag ggttcgttgc agaaaggcca agggcaagta 60
ggaggcgata gacctacttg aaaatggagg tgtctgcgaa gaagcgaaag gccgaagaag 120
cgaatggcgt ggtcgatata gccgtggaag atgctcggaa aatgttggaa cccttcaccc 180
gagagcaact attagatatt ctgcaggagg cggcgacgca gcacctggac gtattggagc 240
aggtgcgcgc catcgcggac aaggatcctg cgcagagaaa gctgttcgtc cgtggccttg 300
gctgggatac aaatacagag tctctcaagg ccctcttttc ccagttcggg gaactggagg 360
aaggggtcgt cattatggac aagaacaccg gtaagagtaa gggttacgga ttcgttactt 420
tcaagcacat ggacggtgct cttaatgccc taaaggagcc cagcaagaag atcgacggcc 480
gcatgactgt cagtcag 497

<210> 1864
<211> 308
<212> DNA
<213> Pinus radiata

<400> 1864
tgcttagatg gagtttacgt ccgaaatgga gcgaatcccc ggttcaaacc ccgaggaggc 60
caccatttat ttgacggcga tggaatgata catgccgtga cgctgcgaca cgggaaggct 120
agttacagtt gccggttcac ggagcccgaa aaggctcatt agcgaggaac gggcggggcg 180
gcagttttac ccgaagccca tcgggcaact ccacggccac ggacgggctg gtgcgcctgc 240
tgctgcatgg tgcccggggg ctctgcggga ctggtcaaca ccgggaaggg catgggcgtg 300
gctaatac 308

<210> 1865
<211> 395
<212> DNA
<213> Pinus radiata

<400> 1865
aagcggtggc agattgttca caatgatttc aagtggcgct ctttcttctg cagcagagat 60
tttgaaggca tatcagctgc tcttggttgc tactcctttc aagaaaatat ctcattttat 120
gacttatcaa acggttctta atgtagcaga gggagaaacg aggttgcaca ttgttgattt 180
cggaattctg tatggtttcc aatggccttc tctgattcaa tgtctggcaa atcgtcctgg 240
tggtcctccc atgcttcgca taactggaat cgagtttccc caacctggat ttagaccagc 300
agagagaatt gaagagactg ggcgcagact ggaagactat gcaaaatctt tcggtgtgcc 360
ctttgaatac caggctattg caacaaagtg ggaga 395

<210> 1866
<211> 340
<212> DNA
<213> Pinus radiata

<400> 1866
gttaacttga aaattgaaca cttctcaccc agcagttctg atatggaaaa actggagatc 60
gaagagttgg ggagtcccca gggtgatgta aaatctttgc ttattgaatg tgctaaagct 120
attgcagacg gtcgtaatgc agataatttg attgcagggc tgagacaagt tgtaaatata 180
tatggggatc cattgcatag gttagctgca tatatggtag aaggtcttgt agcaaggttg 240
catttctcag gaggacatat ttacaaaacc ctaaaatgca aggagcctac cagttccgaa 300
ctcctttctt acatgcatat tctatatgaa gtttgtccct 340

<210> 1867
<211> 398
<212> DNA
<213> Pinus radiata

<400> 1867
cttttcaaga agtggaaaag ggtgcaaagt ggaacccttt ccagaagctg gcggccgcag 60
ttcttgatgc ggcggaggac accctggttc gtccgcttga gaagcaacgc ccgttgccca 120
acacatccga cccaacggtt caactgtgcg gcaacttcgc gccggtgccg gaaacgcnag 180
tnaagcatga cctggaggtc gagggccggg taccggagtg cttagatgga gtttacgtcc 240
gcaatggcgc naatccccgg ttcaaacccc gcggcggcca ccatttattt nacggcgatg 300
gaatgataca tgccgtgacg ctgagacacg ggaaggctag ttacagttgc cggttcacgg 360
agaccgaaag gctcgttagc gaggagcggg cggggcgg 398

<210> 1868
<211> 200
<212> DNA
<213> Pinus radiata

<400> 1868
aattgcaaat cttgacagtt caatcggtaa atcaatgaaa agcatctcag atttatcacc 60

catgtgctaa ttctatgagt ggtttttgtt tggtgtagga gcgcactgca ttctacttcg 120
gaaaaaaata tggatgcaga gcactttcct gtaggtttct ttaggtggga taagagacca 180
gcaccagttg tagcggcagc 200

<210> 1869
<211> 286
<212> DNA
<213> Pinus radiata

<400> 1869
ggatagtgca gagcggctga acgtggagaa gcacttcttc gcagagaaaa taatggggat 60
tgtagctttt gagggagccg aaagaaaaat cagactggaa ggaagagatc agtggcgtat 120
tgtgatggaa tcagcgggat tcaaatttac caatttaagt cattatgcaa ggagccaagc 180
tcgaattctt ctctataatt attgtgaagc gtattctcta gatgaatcgt cggggtttct 240
ctctttggca tggcaaaatc ggcccctcct caccgtcctc agcctg 286

<210> 1870
<211> 301
<212> DNA
<213> Pinus radiata

<400> 1870
ctatacctcc gcctcttgtc aatttcaggc tctttcttcc tgatttttca gacagtgtac 60
agtcgcgata ttcacacaag gccgccatta tcatctatct ttcaagaagc agtagaccaa 120
acaagcaaaa gcggaaaaac tatgggaaag aagaagaggn aggcccccaa ggtctggtgt 180
tattactgtg agcgcgagtt cgntgatgaa aagatattgg ttcagcaccn gaaggccaaa 240
catttcaagt gccatgtctg ccacaagaag ttgtctaccc gctggaggca tggccatcca 300
t 301

<210> 1871
<211> 301
<212> DNA
<213> Pinus radiata

<400> 1871
ggctgcacca ctgtagtaga aactttagcc aagtggcagg agctgaacag ccaggtggaa 60
agctcaaaag atggcgcgaa aagactcagg aaagcccctg ccaaagggtc aaagaaaggt 120
tgcatgaaag gaaagggtgg tcctgataat ggacgttgca actatagagg agtcaggcag 180
agaacgtggg gaaaatgggt tgcggaaatc agagaaccga atcgtggaag tcgactgtgg 240
ttgggtacgt tctcttcagc ggaggaggca gcacgtgctt atgatcaggc tgcgagggtt 300
a 301

<210> 1872
<211> 447
<212> DNA
<213> Pinus radiata

<400> 1872
aagaaaccta cttggggcaa gagctcagcc catgaaactt tctgctaaaa atgattcaaa 60
actgggtatt gcaaggcctg ccaagctcta cagaggagtg agacagaggc actgggggaa 120
atgggtagca gagatcagat tacctaggaa tagaaccagg ctctggcttg gaacttttga 180
cacagcagaa gaagcagcgt ttgcatatga cacagcagcc taccaactac gtggtgagta 240
cgcaaggctt aattttccgg acttgaggta tcttttgctc tcaaattcgg ataacggtag 300
ccataatgtt ctttcgccac cgggtaatgc gttatctgtg ctgaaatctt ctgttgatgc 360
aaagctccag gcaatttgcc agcgtttatc ccaggaaaat tcttcagaaa atcgtctgat 420
ggcacacagt gccaacaatg aagctct 447

<210> 1873
<211> 311
<212> DNA
<213> Pinus radiata

<400> 1873
gaagatggca gcaagggtta caaggccgta aatccccatc ccaaaaaggg cgtcgcctcg 60
tggctggtgg acatggtgga gaaactggtg gttgaaactt ctgcgttgta tagttcgaag 120
aagcctctgc attttctttt ggggaacttc gctccagtct cggaaactgc ccccaaatcg 180
cacctgcctg ttgttgggca acttcctagt tgcttggatg gagagttcgt gcgcgttggt 240
cccaatccga aattcgcacc ggtagctggc tatcactggt ttgatggaga tggaatgatc 300
catggtctca g 311

<210> 1874
<211> 383
<212> DNA
<213> Pinus radiata

<400> 1874
ttctcgcccg tttttttccct gcactcacca cttccatcgc cattgctgga accctagaag 60
accagtctct ttcttttttta actcaggagt taaatcgcaa tacaaaactc ctgtgctgga 120
ctctattgta tcatagtatt cagcaagaga ggccatgggg cggggaaaga tcgagctgaa 180
gaagatcgaa agcacaagca acaggcaggt gacgttctcg aagcggcgga tggggttgct 240
taaaaaggca caggagcttt ccgtcttatg cgatgcagag gtcggcgtca tcattttctc 300
taataccggc agactctacg acttctcgag ctccagtatg gagaagatga ttgaaacata 360
ctatcgattt attgaaaaaa atg 383

<210> 1875
<211> 235
<212> DNA
<213> Pinus radiata

<400> 1875
agagattcag ggtgtgaggg aggagatcgt gggggaaatg ggtagcggag atcaggatgc 60
tccgatgccg atcccgcgta tggttgggat cctaccacac tgcagaacag gcagctcgtg 120
cctatgatgc tgcctctttc tgcctacgag gtcctgctgc tttcctcaac ttccctgaat 180
ctccacctgc tcagtttctc ccatatcccc tgcgccctct tcatgatatt catct 235

<210> 1876
<211> 416
<212> DNA
<213> Pinus radiata

<400> 1876
gattgtatga gatatcagaa aataaaactg attttaattc tgcaggcatc tcagaaaaac 60
aaaactggct ttacttctac aggcatctca gaaaataaaa ctggttttac ttctgcacag 120
atgtcagaat aacaaaactc gttttacttt tgcagacatc tcagacaata aaactggttg 180
gttttagtac ttgcccagac atctgagaaa aacaaaaccg gttttacttc tgccgccggt 240
aaggttttac aagcttgaat tcaaacttta taatcgggcg ctgtttatat gtccaacgga 300
aaatgtgagg tcctacacac gctgacgcgc gagctcgtcg ccagttataa acgtaccatg 360
gaagccgtag ggcacccggg agggcagttt gacggaggcc acgacgtcga ggcccg 416

<210> 1877
<211> 320
<212> DNA
<213> Pinus radiata

<400> 1877
gcacaatgtt gaagggtggg atagagggtc tnatgttgat cacaaagagt ttctcagagg 60
gattggaggg tggagaatga gtatgccaaa gctctgtgat gtttgtcagg tatcaagctc 120
tgtaatatat tgcagagctc atactgcaca gctttgctta gtctgtgatg ctaaaattca 180
tggtggtagc aaggcttcgt tgtgtcatga aagagtttgg gtttgtgaag natgtgagca 240
ggccccagct gtggttacat gcaaggcaga tgcagcagct ttatgtgtag cctgtgatac 300
tgatattcat tctgccaatc 320

<210> 1878
<211> 456
<212> DNA
<213> Pinus radiata

<400> 1878
ctttggattt catgggctca tttcactgac tccgccgtga aatatcacta atttcgcttc 60
agagtttctg caatattgcc aaatatggag aattttcccg agcaggaacc tgataatgcc 120
attgctctac cacacgaaga tcgcggttcc cgccaattta agggaatccg actgcgaaaa 180
tgggggagct gggcatctga aatccggata ccgagatcca gaaagaagat atggcttggc 240
tcatacacta ccccggagca ggctgcccgc gcttacgacg ccgcagtgta ttgtctgaga 300
gggcgcaatg ccgaattcaa cttttctgtc cctgacattc cgactccgtc ccccctttcc 360
cgtgagcaaa ttcagcatgc cgccgccgaa tatgcgttga gccaggcccc ttcgagtttg 420
gcctctttca taggttcccc ctcgcagtcg tcttcg 456

<210> 1879
<211> 491
<212> DNA
<213> Pinus radiata

<400> 1879
ccggagtgct tagatggagt ttacgtccgc aatggcgcga atccccggtt caaaccccgc 60
ggcggccacc atttatttga cggcgatgga atgatacatg ccgtgacgct gagacacggg 120
aaggctagtt acagttgccg gttcacggag accgaaaggc tcgttagcga ggagcggcgg 180
gggcggagct tttacccgaa gcccatcggg caactccacg gccacggcgg gctggtgcgc 240
ctgctgctgc atggtgcccg gggctctgc gggctggtca acaccgggaa gggcatgggc 300
gtggctaatg ccgggctggc cttctttaac ggccgtctgc tcgctatgtc cgaagacgat 360
ctcccgtatg ccgtcagggt gacgggtgac ggcgatctgg tgacgacggg caggttcgat 420
ttcgacgggc agcttcacgg gtcgtcatcg gtcaccgcgc accccagcat tgaccccgac 480
acgggcgagc t 491

<210> 1880
<211> 310
<212> DNA
<213> Pinus radiata

<400> 1880
gtgagttcta ggcatgagtt tgcagtatcg caaatggcct acttacaagc tttgaggaat 60
gctggcgcaa cccttagaca atttgcagaa ttagaatcaa tggagcttca gaagacttca 120
ccttacccac atcttcgcca ttatcgggtc accttgcccc cttcacctcc tcctcttccc 180
ccacctccac cacctcctcc tccattgtct ctcacccctt ctcctagtta tggatctgca 240
acttttcctt ccagcatccc agtcaatcga agcatctaca gatgtccgta tcagcaatgc 300
tcaccatcat 310

<210> 1881
<211> 251
<212> DNA
<213> Pinus radiata

<400> 1881
ctggntcctc cgatctcgct ccctgtaaca cgccccggtc agaaatggtg aaggaggagg 60
attgtaaggt gccccaagag gccggaatcg tgaaggaatt tcaagcctgg actatgccca 120
agccctgcaa cgtgtgcagg atcgcgagcg cttcgctcta ttgcagggcc gacgctgctt 180
atctctgctc cggctgcgac gtcaaagttc acggcgccaa caagctggcg tcgcgccacg 240
agagggtgtg g 251

<210> 1882
<211> 351
<212> DNA
<213> Pinus radiata

<400> 1882
cacgagggcc agagctgtgg ctgttcccag aagaggatat catcagctgt ccagtttgtc 60
ctaagagact acagaagaag aatatagaag atgggtagat ccccttgccc cccaaaagaa 120
gcgcttaacc gtggggcttg gacaggcatg gaggatacga ttctcaccga gtacattcga 180
gttcatggca gtggtggctg gaaagctatc tccaaaagag caggtgagtg tcaataaaaa 240
tttaatagca attcttttta ttagcagaag gaagtagcaa tctcccaggt tatatataac 300
aattcatcag tcatatatat cagaaattta tagtcgagtc taagagggag a 351

<210> 1883
<211> 450
<212> DNA
<213> Pinus radiata

<400> 1883
tcccttatca cagaatagaa actgatggct agtcagattc cagaatgaac cctctaaatt 60
aaatgtagcc cgcctagaac attagaagaa gcaaaagcaa acattcatga tcaataaatg 120
tagattaaaa ccaccggcat tgatgtgtag tagaagttga atatggtcag gcatacttgt 180
tcctgttgct gtggctggtt tcaagttcgt agagctttcc tcggccagaa aaaacgatga 240
gcgccacctc tgcatcgcac agcactgaaa gctcgaaggc tttcttcatc agaccgcctc 300
ggcgcttcca gaaggtcacc tgcctgcgca cgctattctc gatcttcttg gtttctattt 360
taccgcgccc cattttcagc aaaatcccaa aatctgagta tgggcaggcg ttgaacttaa 420
atttgctcta tgaacagaat taccgagctt 450

<210> 1884
<211> 386
<212> DNA
<213> Pinus radiata

<400> 1884
aaatgatcag aggcggttct ccagttattc acaacaaaga aaaggtcccg cgcttcgggc 60
ttctgcccaa atatgcttct gacgagagtg agctgaaatg gatcgaggtc ccggattgct 120
tctgctttca tctctggaac gcctgggaag aaggagaaga cgaggttgtc gtcatcggct 180
cctgtatgac cccgccggac gccattttca acgaatctga cagcgcgctg cggagtgttc 240
tgtcggaaat tcggctcaat ctcaaaaccg gcttgtccac cagacgcgag atcacgccga 300
tgaatctcga gagtacttct agagcggccg cgggcccatc gattttccac ccgggtgggg 360
taccaggtaa gtgtacccaa ttcgcc 386

<210> 1885
<211> 190
<212> DNA
<213> Pinus radiata

<400> 1885
aaatgatcag aggcggttct ccagttattc acaacaaaga aaaggtcccg cgcttcgggc 60
ttctgcccaa atatgcttct gacgagagtg agctgaaatg gatcgaggtc ccggattgct 120

tctgctttca tctctggaac gcctgggaag aaggagaaga cgaggttgtc gtcatcggct 180
cctgtatgac 190

<210> 1886
<211> 412
<212> DNA
<213> Pinus radiata

<400> 1886
ggtcccagcc gccttcnggg gcgttcgtgc cgcaagatat gcttctgacg agagtgagct 60
gaaatggntc gaggtcccgg attgcntctg cnttcatctc tggaacgcct gggaagaagg 120
agaagacgag gttgtcgtca tcggctcctg tatgaccccg ccggacgcca ttttcaacga 180
atctgacagc gcgctgcgga gtgttctgtc ggaaattcgg ctcaatctca aaaccggctt 240
gtccaccaga cgcgagatca cgccgatgaa tctcgagagt acttctagag cggccgcggg 300
cccatcgatt ttccacccgg gtggggtacc aggtaagtgt acccaattcg ccctatacgt 360
gagtcgtatt acaattcacc tggccgtcgt tttacaaccg ncntgactgg ga 412

<210> 1887
<211> 329
<212> DNA
<213> Pinus radiata

<400> 1887
atcagaaggc ggttctccag ttattcacaa caaagaaaag gtcccgcgct tcgggcttct 60
gcccaaatat gcttctgacg agagtgagct gaaatggatc gaggtcccgg attgcttctg 120
ctttcatctc tggaacgcct gggaagaagg agaagacgag gttgtcgtca tcggctcctg 180
tatgaccccg ccggacgcca ttttcaacga atctgacagc gcgctgcgga gtgttctgtc 240
ggaaattcgg ctcaatctca aaaccggctt gtccaccaga cgcgagatca cgccgatgaa 300
tctcgagagt acttctagaa gcggccggc 329

<210> 1888
<211> 101
<212> DNA
<213> Pinus radiata

<400> 1888
aaatgatcag aggcggttct ccagttattc acaacaaaga aaaggtcccg cgcttcgggc 60
ttctgcccaa atatgcttct gacgagagtg agctgaaatg g 101

<210> 1889
<211> 326
<212> DNA
<213> Pinus radiata

<400> 1889
atgatcagag gcggttctcc agttattcac aacaaagaaa aggtcccgcg cttcgggctt 60
ctgcccaaat atgcttctna cgagagtgag ctgaaatgga tcgaggtccc ggattgcttc 120
tgctttcatc tctggaacgc ctgggaagaa ggagaagacg aggttgtcgt catcggctcc 180
tgtatgaccc cgctggacgc cattttcaac gaatctgaca gcgcgctgcg gagtgttctg 240
tcggaaattc ggctcaatct caaaaccggc ttgtccacca gacgcgagat cacgccgatg 300
aatctcgaga gtacttctag agcggt 326

<210> 1890
<211> 246
<212> DNA
<213> Pinus radiata

<400> 1890
agctgaaatg gatcgacgtc ccggattgct tctgctttca tctctggaac gcctgggaag 60
aaggagaaga cgaggttgtc gtcatcggct cctgtatgac cccgccggac gccattttca 120
acgaatctga cagcgcgctg cggagtgttc tgtcggaaat tcggctcaat ctcaaaaccg 180
gcttgtccac cagacgcgag atcacgccga tgaatctcga gagtacttct agagcggccg 240
cggggc 246

<210> 1891
<211> 238
<212> DNA
<213> Pinus radiata

<400> 1891
aaatgatcag aggcggttct ccagttattc acaacaaaga aaaggtcccg cgcttcgggc 60
ttctgcccaa atatgcttct gacgagagtg agctgaaatg gatcgaggtc ccggattgct 120
tctgctttca tctctggaac gcctgggaag aaggagaaga cgaggttgtc gtcatcggct 180
cctgtatgac cccgccggac gccattttca acgaatctga cagcgcgctg cggagtgt 238

<210> 1892
<211> 349
<212> DNA
<213> Pinus radiata

<400> 1892
tgtaccggaa aattccaaac aaataatcaa ccatggactc atattgccgg agatgggctc 60
agtggacagc gggcgcgaag gcacgagagc aattttgtcc gatgattgtg tgaaattcga 120
atgccgatat tgttgtaggg ttttcccgac gtctcaggct ctcggcggcc accagaacgc 180
ccataaacga gaacggcgcc gggcaatgac gaggtttcag agatcgccct ctgacagttc 240
aaactattca ggaaaacaga atagtattga tctgtttagc cgtgagagag ttcccgggtc 300
ttctctcctt tcaccacacg gtacgaggga tcatgttgtt tgcagtgac 349

<210> 1893
<211> 417
<212> DNA
<213> Pinus radiata

<400> 1893
gaagaagaag aagaagaaag ccccgtggtt tcagggcgaa tgagccgtag cgcctcagaa 60
tgggccttcc agaagtttct cagttttgat ggttccaaga ttccgtcaga agatggagaa 120
ggcgaacaga agcctctcgg tgttaaagat cctctgcttc acggtcatat ggacaacgtc 180
cctgcggcgc tcagtcctct ctttgccgaa gtcaaggatg aggttcttct tcctactgac 240
cctcgagatt acgaggcctt cctcaagcgg aggcttaacc ttgcctgcgc ggcagtcgcc 300
ttcactcggg ttacaggaat tagctctcca ggccctggtc cctcaacagt ggatgcaaac 360
caatctcaga acactttagg atcagaaaga gtgcatcgtt ggtatcccaa tcttccg 417

<210> 1894
<211> 456
<212> DNA
<213> Pinus radiata

<400> 1894
ggaaggcaat gagagtgatc tcctcaaggg aatgaagaag gcaaggcgtg agagaggatc 60
aacagcaaag gaacggatta gtaaaatgcc tccctgtgct gctggaaaac ggagttctat 120
ctacagaggc gtcacaaggc atagatggac aggacgatat gaagctcatc tttgggacaa 180
aagtacttgg aaccagaacc aaaataaaaa gggcaagcaa gtgtacctag gtgcctatga 240
tgaggaggag gctgcagcca gagcttatga ccttgccgct ctgaaatatt ggggtcctgg 300
aactctcatt aattttcctg ttagtgacta tgctagagat attgaagaga tgcagagcat 360

ttcaagggaa gatttcctgg cttctctcag acggaaaagt agtgggtttt caaggggaat 420
gtcaaaatac cgtggactgc caagcaatca caaact 456

<210> 1895
<211> 456
<212> DNA
<213> Eucalyptus grandis

<400> 1895
ggaaggcaat gagagtgatc tcctcaaggg aatgaagaag gcaaggcgtg agagaggatc 60
aacagcaaag gaacggatta gtaaaatgcc tccctgtgct gctggaaaac ggagttctat 120
ctacagaggc gtcacaaggc atagatggac aggacgatat gaagctcatc tttgggacaa 180
aagtacttgg aaccagaacc aaaataaaaa gggcaagcaa gtgtacctag gtgcctatga 240
tgaggaggag gctgcagcca gagcttatga ccttgccgct ctgaaatatt ggggtcctgg 300
aactctcatt aatttcctg ttagtgacta tgctagagat attgaagaga tgcagagcat 360
ttcaagggaa gatttcctgg cttctctcag acggaaaagt agtgggtttt caaggggaat 420
gtcaaaatac cgtggactgc caagcaatca caaact 456

<210> 1896
<211> 388
<212> DNA
<213> Eucalyptus grandis

<400> 1896
gtaaatcaat acctggtcag catcctaatt tagcattcaa tgttggcagt attagatcca 60
accagcagca gcttcagcaa cagcatgatc tgcccctcct ccccaagcca gcaacaatgc 120
cttttgcctc ttcagtaagt atagcaaata attcccagat gcctggttta gggtcaagag 180
gggtaatcag gatgacagat gcatccatca aaagttcctt agctcaaggt ggtgggctgc 240
agactggagt tggcatgact gggttagaca ctaggggagt tgctcttcag acagtatctc 300
ctgctaacca tatatctccg gatgtaatct ctaggaacac gatggattcg tcttcactct 360
caccagttcc ttatccgttt ggccgggg 388

<210> 1897
<211> 202
<212> DNA
<213> Eucalyptus grandis

<400> 1897
atgcgaaaca tgctcaaaca cccccaacat catgggaagg tggaagtggg gctgattcgg 60
aggttaacat gttgaaggat tacgcttcag aggactggat tacaggtgtt gaccgcttcc 120
ggttgagctt ggttgaattt cttgataagt tgaataagta tgcggagtcc tctgttcata 180
tgtacgtgtc ccttgaaaag gc 202

<210> 1898
<211> 289
<212> DNA
<213> Eucalyptus grandis

<400> 1898
gttgaatggg gattcaaaca atggcttcac aaggcggcgg cggcagcagc ggtaatgcca 60
gaggtggcgg tggcaataat ggaaaatcca ctgaagttca gccattgact cggcagaatt 120
caatatacag tctcactctt gatgaggttc aaaaccagtt aggtgattta gggaagccat 180
tgagcagcat gaacctggac gagcttttga agaatgtctg gacagctgag gccggtcagt 240
caatgtttat ggatgttgag ggcacggctg tggctaatca aaatgctct 289

<210> 1899
<211> 477

<212> DNA
<213> Eucalyptus grandis

<400> 1899
cttgaaatcg ggcgtgccca gctcgatcgc agcttcaagc agctcaaaaa gactgtatat 60
cactcgacga gtgtgctgag cacattgagc tcgagctggt catcaaagcc gccattggca 120
gtgaagtacc agctcaaccc cggctcactc actgaatcag atgattcaaa gagcctctgc 180
tccactctgg acaagctctt ggcttgggag aagaagctct atgaggaagt gaaggctaga 240
gaaggtgaga agatagagca tgaaaagaag ttgtcagtac ttcagagcca ggaaggcaag 300
ggagaagatg aaaccaaggt agacaagacc aaggcctcat taaataagtt gcaagcacta 360
atagctgtta cgtcggaggc tgtctctaca acttcaaatg caattattgg cctcagagac 420
agtagacttg tcccgcagct tgttgaactc tgccatgggt tcatgtacat gtggagg 477

<210> 1900
<211> 1243
<212> DNA
<213> Eucalyptus grandis

<400> 1900
ccccctctt cctcagtcag ccagtctctc tctctctctc tctcacatct ctagtttcag 60
ccttttcct ccatttggcc aagcagcgcc cgccgcgcga cccgaaggct tccggatctg 120
gtgctcgttg ctattccgtc cgtcgatagg aggctaggct acgctgaaag aagttgatga 180
gcgcaatttc actgatggag tggaatgcga aacctcctct gcagtgggaa tgggagaatc 240
ttatgatgtt cggttcaaaa gcgactgaaa cctctaagcc gctgcgagcg actgattggg 300
gaatcgaggc ggaggagctg attgaccccg ggtccttatt tctgtatgag aatggtggcg 360
gcagcagcag ttgtaccagc attgatccgg gttacacttc tgtgtccaag agctcgaaat 420
cggcttctgt caattcttcg tctacggacg aattgaaaat ctcgaaattc tctgtggagg 480
cgcatgaagg cttttctctg cagagtagca agaaagaatt ggcggtgaat gattttaccg 540
gaatgtcacc ggcactcgag ccttcggtct gctctggtga gccactgctc agtctaaagc 600
tcggtaaaag gatatatttt gaaaatacta ttgacaagga tcatgtgaag acccaagacc 660
ttccttcggt catgaaatca cctgatactc cagcaaagag aaacaaatcc aactgtcagg 720
gtacgtccgc cccacgctgc caagttgaag gctgtaacct tgacctctct tcagctaaag 780
attaccaccg caagcataga gtttgtgaga gtcactctaa atgccctaag gtcatcgtca 840
gtggtataga gcgtcggttt tgtcagcaat gcagcaggtt tcatgggcta tctgagtttg 900
atgaaaagaa gcgtagctgt cgcaagcgcc tatctgatca caatgcaaga cgtcgcaagc 960
cccgccaga tgtgacccag ttgaatccgg ctagactgtc tgcactgttt tatggtggga 1020
tgcagcagtt gaatccagtc ttgagcagag ctccagctat ccacaccagg tctactgcta 1080
gttttaaatg ggcagataca caggacacta agctcataga gaaaggtccg aagcttccaa 1140
taggcggagg tgttggtgag tgtatcacta tcccaagcaa tgggataccg gacaccctca 1200
agtccactgg attgggcaaa agctataacg aacttctatc atc 1243

<210> 1901
<211> 366
<212> DNA
<213> Eucalyptus grandis

<400> 1901
aaaaagtata tatacctcgg cctatttgat agtgaagtag aggcagcaag ggcgtatgac 60
aaggcagcta tcaaatgtaa tggaagagag gctgtgacca actttgaacc tagtacgtac 120
gatggagaga tgattgcaaa agccagcaat gaaaatagca tctatggtga ccatggtctt 180
gatctcaatc tcgggatatc agcttcttcc aggggaatgg tggaaacctt agagccctcg 240
gacgacatgc gtcagggaag tagtttaagg gtaggaaact ctgctgcatc ctggggtgat 300
ccatctgttg aaggtttatc gatgacatct ggacaacctc tccttgacgg gtgtttatcc 360
taccgt 366

<210> 1902
<211> 466

<212> DNA
<213> Pinus radiata

<400> 1902
ttaattcatg gcggcggcgg cgacgactac gttgggttgt gcgaaggtgg atttgatacg 60
gctcatgcgg ctgcgagagc ttacgacagg gcagctatca agtttcgagg agttgaagct 120
gatataaatt ttactctcac cgactatcaa gaagatttag accagacgag caagctctct 180
aaagaagagt ttgtgcatat tctccgtcgt caaagtactg gtttctctcg tggaagttcc 240
aagtatagag gcgttaccct gcacaagtgt gggcgatggg aagccagaat gggtcaattc 300
ctaggaaaaa agtatatata tttgggatta tttgacagtg aagaggaggc tgcaagggca 360
tatgataagg ctgctatcag gtgcaatgga aaggaggcag taacgaactt tgatcctagc 420
ttatatgaaa aagaaattct tgaagaaaga agagagagtc agactt 466

<210> 1903
<211> 240
<212> DNA
<213> Pinus radiata

<400> 1903
gcttattgga atgcctgaca ctaactatgg aagcgaacag acaaatgctt gcaaaaaaca 60
gaaaagaata cgttccaagg attcaggaga agatggtgaa gatagacaga gagaacatcc 120
tttcattgtt actgagcccg gtgaacttgc aagagggaaa aagaatgggt tagactatct 180
ctttgatctt tatgaacagt gcgggaaatt tctgctggat gtgcaacata ttgcgaagga 240

<210> 1904
<211> 495
<212> DNA
<213> Pinus radiata

<400> 1904
gccatggcaa tagattttgc aggacgggaa tctcctcgtg tgcaggctcg cagataccc 60
attgccaggc cgagggttgt aaggcaaact tgagcagtgc caaacactac catcgccggc 120
ataaggtttg tgaattgcac tcgaaggctt ctactgttat tgtgggtggt ttcattcagc 180
ggttctgcca acaatgtagc agatttcatc caagatctga attcgacgag ggaaaacgaa 240
gctgcagaaa gcgccttgct gaccacaaca gacgaaggag aaaacctcag ccaagtacat 300
gtgttacatc acaatctcag gctgggacaa caggtttaga aaatgataac cagacaacta 360
aaggatcatc aggtcacatt acaacggctg ttcagaatac accgaacatt agcagaagca 420
ctagtagtac tagtccgtcc ttgattacat cagtaccgat gatgatgttc ccaaataact 480
ataaaggaca tagtc 495

<210> 1905
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 1905
taacactaca ttcatcaccc caaacagcaa acggatcatc tcgcacaatc catcaagtgt 60
agatcgaccg gcggaatctg cagcactggc aaagaggatg aggagggctc acattcagaa 120
tatagcggga gattgcaact tgaaagacag attacatata caaagtggaa tcacatatag 180
tcagcaacaa agagctccct tttccacatt ggcgcagaac ttccgcacta gcaattcgcc 240
cccccagcaa tctgaaagca accaaaaaga agccaccgat gatgctcatg gcaccaacgt 300
ccaaggaaca tttcttaaaa aggatgatcc aaaagttact gctctgattc aacaagccga 360
gctgctcagt tcccttg 377

<210> 1906
<211> 377
<212> DNA

<213> Eucalyptus grandis

<400> 1906
gtgattttag tgctcgatac tttgaaaagg gcatcaatac agtcaaacga gataaaaaga 60
cataacatgc aaaactcaat acatgattct cagaaaagac catcatcttt aattcagtca 120
aacgaggctg tttttacgca aacttcggtc ataagctgtg ccttgcaatc gtttgttaaa 180
cctccaaatg ctaaggtcac ggtcacattc ctctctgatc tttgagcagc tcatggcacc 240
aacgtccaag gaacatttct taaaaaggat gatccaaaag ttactgctct gattcaacaa 300
gccgagctgc tcagttccct tgcggtgaaa gtcaatgcag ataacatgga ccagagtctt 360
gaaaatgctt ggaaggg 377

<210> 1907
<211> 1668
<212> DNA
<213> Pinus radiata

<400> 1907
agctgtaagc tacctacgaa gtggaatcga agagagagag agtgagaggc taactaataa 60
gatgaatatg aagattcgaa cctccgacac cagtactcct gatgatcagc aacagcatag 120
cggcgccgtg aaagtggcga ttccggccgt gtcgggggat tcggggacga ttgggttaaa 180
gctgggcaag cggacctatt ttgaggcggt gaaggcaatt ccgacagcga tcccctcgcc 240
gtcttgcgtt ccggctgcca agaagcagca gtctgcgttg cagggaacgc atatggtgcc 300
gcggtgtcag gtggagggat gcgagatgga actcaccgcc gcaaaggact accaccgccg 360
ccacaaggtc tgcgagctcc actccaagtt tcccaaggtc atcgtcaacg ggatcgagca 420
gcgcttctgt cagcaatgta gcaggtttca tacgttgtct gagtttgatg aagggaagcg 480
gagctgtcgg aggcgtctag ctggccacaa ccagcggcgt aggaaacccc aacttaattc 540
aacggcgatg aaagctgcaa gatttgcttc cactttctat gatgacgggc gacttagcag 600
catcctgatg gctagatcac ctttcatgca tccacggata gcttcaaact tggaggagaa 660
ttcgctcgat ttcaaacttg gaggatatgg aaaaggagct tggccgagga ttaaggctga 720
ggatgtatca tcatatgatg ggcaattatc aaccaaatac cctctcccgt cataatgctg 780
aaagattgct tttcctttta cagggttcta agactgtacc tggtggagct attaatcaaa 840
gcactcatca gtacaggcaa agctccaggg atcatgtggg ccaatccttg accttgtcat 900
cctgctcggg agaaaatcta acaggtttaa atgttatatc tgccccacat ggtttatcag 960
gagtctcgga ctctggctgt gcgcactagc ttctgtcaat tcaatccggg ggcccaaggt 1020
cctcaggatc agcttcattt gatatgacca cgcggtcagg tctcacaatg gatcaactta 1080
tactagagga tcaacctctt atggctcaag caccattgat gcaaggagta caacacaact 1140
ttggtcattt tgcagaagac aagttactaa caatgtatcc ccagtcctct actaatcttg 1200
caacaggtgg gttccctgca gctactgtga attctatgga taagcagcac caaggtcatc 1260
cactcgtttc cgatgcaggc caaatggtaa actttggagg aaatatattt ggcttgctgc 1320
aggggagcag tttcagaggc tctcaagctg caagttcaca agatattcaa ggcaccatag 1380
atctgatgtg cacgtcctcg gaaacacaaa ctaatgattc tcatgatcaa cttggcatgg 1440
tgcaccaggg aagtaaacag tttactgact tgcagttgtt gaggtctttt gaatcatcta 1500
tttatgacac tcatcaactg ctgtagctct aatctggttg ttcttccggc atgttttctt 1560
tgccctcaga cttgaagata actgttaaaa cttcattatg acaattatct gtaccctcta 1620
aatgcagaca attgctttca attacccttg cttatttcaa aaaaaaa 1668

<210> 1908
<211> 821
<212> DNA
<213> Eucalyptus grandis

<400> 1908
ctctctctct ctctctctct ctctttcttt ctttctttct ctctctagca gaggcacaga 60
ggcgcgcaga gggcactgat gatgacgact ggggtagctc caatgaatgg gctctagaga 120
acctcgctca tggacgtggg ttcgggctcg tggacgacgg agtccgggtc ctcttctcct 180
ccccctctcg agtccctcaa cggcctcaag ttcggccaga aaatctactt ccagaataat 240
aacagtagta ataatgccgc cgcacccaag aacggctccg gctccggctc cggctcctcc 300

tccgccgccg cgcccgcgcc cgggtcgggc acgcccccga agaaggtgag ggcctccgcc 360
ggcggcggcg gctgcggggc gatccagggc gggcagcccc cgaggtgcca ggtggaaggc 420
tgccgggtgg atctgagcga tgccaaggct tactattcca ggcacaaggt gtgcggcatg 480
cactccaagt ccgccaccgt catcgtcgcc ggcatcgagc agaggttctg ccagcagtgc 540
agcagattcc atcagcttac tgaatttgac caagggaaac gaagctgtcg tagacgtttg 600
gctggtcaca atgagcgccg gaggaagccc ccacctgggt cgctactatc ctctcgctat 660
gggcgactgc aatcctctat atttgagaac accaccagag tgggtagttt tctgatggat 720
ttcacagcat acccgaagca tgcatggtca gcgccacgtt tttctgagcg cacgacacct 780
ggagatctag tccccggacc aggaaaggtc tatcctcatc c 821

<210> 1909
<211> 105
<212> DNA
<213> Eucalyptus grandis

<400> 1909
gggaagagga gcgtagagtg ggattcgaac gattggaagt gggacggtga tctgttcgtc 60
gctaggccgc tgaacccggt cccgtccgat ttccccggcc ggcag 105

<210> 1910
<211> 338
<212> DNA
<213> Pinus radiata

<400> 1910
cagaagagac ctgccatgga aacacatttt gcaggacaga aatttcatca ttcacaggct 60
cacagatacc ccagtgccag tccgagggtt gtaaagcaaa cttgagcagt gccaaacact 120
accatcgccg acataaagtt tgcgaattcc actctaaggc tcctacggtc gttgttggcg 180
gtcagattca gcggttttgc caacagtgta gtagatttca tcagacatct gaatttgacg 240
gaggaaagcg gagctgcaga aagcgccttg ctgaccacaa cagacgccgg cggaaaccta 300
aaccgagtca atgtactaca tcccaatgtc aggcaggg 338

<210> 1911
<211> 465
<212> DNA
<213> Pinus radiata

<400> 1911
tcgacatggt cctttgcatt ttcttgaaga agctgtgatt gttcgaccga cacgttactc 60
attcacattg cctctccatc tccttcaatc aggattccag aattgcccgt cgaaatggat 120
gaagtccaag tcaaggtcga cattcagagc acaaatgtca gtgccgacga gcccaggcct 180
gcgaagcgcc agggtttcga gctcgccaag agccctgaaa acgtggcttc gaaatccact 240
gcgctctcct ctccgaaaaa acccaaagct gcttcttcct cttcttcttc gtcgccgaga 300
gcgcagcctc ccgcttgcca ggtggagaaa tgcgcggcgg atcttgctga tgccaaagag 360
tactatagga ggcacagggt ttgcgagcaa cattcaaagg ctcgaattgt gctcgttctt 420
ggcctccagc aacgcttctg ccagcaatgt agcagattcc atgtg 465

<210> 1912
<211> 509
<212> DNA
<213> Pinus radiata

<400> 1912
ctccttacaa aagtagctcc cctcttgact ccaggcggtc ttcccagtcc ataacgatac 60
ggattacacc cacgcacccc atgtcttcca cctcatcgta ttcttctccc tcccctgaca 120
caccatcaca gtctgccgct gtgcgcccga catctacccg agacgattct tccgtcatgg 180
aacctccacg taagcgagcc agggctgatc ttaacgctga acagcgaaga gaggccaggg 240

cccaccgtaa tcgaattgcc gctcaaaact ctcgcgataa acgcaaggcg caattcactt 300
acatggagca gcgcgtggca caactggagg aagagaacca acgactacga gcaggcatgg 360
gcctctctca attcacgcca gccgacaacg acaagttcgt cagcctcgag agagaatcag 420
tacaggcccg cgagaacaga gagctcaagg agaggatcaa gagtctagag agcgggtggt 480
cggccgtcat caaagcgttg caggcctca 509

<210> 1913
<211> 151
<212> PRT
<213> Pinus radiata

<400> 1913
Glu Gly Asn Glu Ser Asp Leu Leu Lys Gly Met Lys Lys Ala Arg Arg
1   5   10   15
Glu Arg Gly Ser Thr Ala Lys Glu Arg Ile Ser Lys Met Pro Pro Cys
            20   25   30
Ala Ala Gly Lys Arg Ser Ser Ile Tyr Arg Gly Val Thr Arg His Arg
        35   40   45
Trp Thr Gly Arg Tyr Glu Ala His Leu Trp Asp Lys Ser Thr Trp Asn
    50   55   60
Gln Asn Gln Asn Lys Lys Gly Lys Gln Val Tyr Leu Gly Ala Tyr Asp
65   70   75   80
Glu Glu Glu Ala Ala Ala Arg Ala Tyr Asp Leu Ala Ala Leu Lys Tyr
                85   90   95
Trp Gly Pro Gly Thr Leu Ile Asn Phe Pro Val Ser Asp Tyr Ala Arg
            100   105   110
Asp Ile Glu Glu Met Gln Ser Ile Ser Arg Glu Asp Phe Leu Ala Ser
        115   120   125
Leu Arg Arg Lys Ser Ser Gly Phe Ser Arg Gly Met Ser Lys Tyr Arg
    130   135   140
Gly Leu Pro Ser Asn His Lys
145   150

<210> 1914
<211> 128
<212> PRT
<213> Eucalyptus grandis

<400> 1914
Lys Ser Ile Pro Gly Gln His Pro Asn Leu Ala Phe Asn Val Gly Ser
1   5   10   15
Ile Arg Ser Asn Gln Gln Gln Leu Gln Gln Gln His Asp Leu Pro Leu
            20   25   30
Leu Pro Lys Pro Ala Thr Met Pro Phe Ala Ser Ser Val Ser Ile Ala
        35   40   45
Asn Asn Ser Gln Met Pro Gly Leu Gly Ser Arg Gly Val Ile Arg Met
    50   55   60
Thr Asp Ala Ser Ile Lys Ser Ser Leu Ala Gln Gly Gly Gly Leu Gln
65   70   75   80
Thr Gly Val Gly Met Thr Gly Leu Asp Thr Arg Gly Val Ala Leu Gln
                85   90   95
Thr Val Ser Pro Ala Asn His Ile Ser Pro Asp Val Ile Ser Arg Asn
            100   105   110
Thr Met Asp Ser Ser Ser Leu Ser Pro Val Pro Tyr Pro Phe Gly Arg
        115   120   125

<210> 1915

<211> 66
<212> PRT
<213> Eucalyptus grandis

<400> 1915

Ala Lys His Ala Gln Thr Pro Pro Thr Ser Trp Glu Gly Gly Ser Gly
1   5   10   15
Ala Asp Ser Glu Val Asn Met Leu Lys Asp Tyr Ala Ser Glu Asp Trp
            20   25   30
Ile Thr Gly Val Asp Arg Phe Arg Leu Ser Leu Val Glu Phe Leu Asp
        35   40   45
Lys Leu Asn Lys Tyr Ala Glu Ser Ser Val His Met Tyr Val Ser Leu
    50   55   60
Glu Lys
65

<210> 1916
<211> 89
<212> PRT
<213> Eucalyptus grandis

<400> 1916

Met Ala Ser Gln Gly Gly Gly Gly Ser Ser Gly Asn Ala Arg Gly Gly
1   5   10   15
Gly Gly Asn Asn Gly Lys Ser Thr Glu Val Gln Pro Leu Thr Arg Gln
            20   25   30
Asn Ser Ile Tyr Ser Leu Thr Leu Asp Glu Val Gln Asn Gln Leu Gly
        35   40   45
Asp Leu Gly Lys Pro Leu Ser Ser Met Asn Leu Asp Glu Leu Leu Lys
    50   55   60
Asn Val Trp Thr Ala Glu Ala Gly Gln Ser Met Phe Met Asp Val Glu
65   70   75   80
Gly Thr Ala Val Ala Asn Gln Asn Ala
                85

<210> 1917
<211> 159
<212> PRT
<213> Eucalyptus grandis

<400> 1917

Leu Glu Ile Gly Arg Ala Gln Leu Asp Arg Ser Phe Lys Gln Leu Lys
1   5   10   15
Lys Thr Val Tyr His Ser Thr Ser Val Leu Ser Thr Leu Ser Ser Ser
            20   25   30
Trp Ser Ser Lys Pro Pro Leu Ala Val Lys Tyr Gln Leu Asn Pro Gly
        35   40   45
Ser Leu Thr Glu Ser Asp Asp Ser Lys Ser Leu Cys Ser Thr Leu Asp
    50   55   60
Lys Leu Leu Ala Trp Glu Lys Lys Leu Tyr Glu Glu Val Lys Ala Arg
65   70   75   80
Glu Gly Glu Lys Ile Glu His Glu Lys Lys Leu Ser Val Leu Gln Ser
                85   90   95
Gln Glu Gly Lys Gly Glu Asp Glu Thr Lys Val Asp Lys Thr Lys Ala
            100   105   110
Ser Leu Asn Lys Leu Gln Ala Leu Ile Ala Val Thr Ser Glu Ala Val
        115   120   125

Ser Thr Thr Ser Asn Ala Ile Ile Gly Leu Arg Asp Ser Arg Leu Val
130 135 140
Pro Gln Leu Val Glu Leu Cys His Gly Phe Met Tyr Met Trp Arg
145 150 155

<210> 1918
<211> 349
<212> PRT
<213> Eucalyptus grandis

<400> 1918
Met Glu Trp Asn Ala Lys Pro Pro Leu Gln Trp Glu Trp Glu Asn Leu
1 5 10 15
Met Met Phe Gly Ser Lys Ala Thr Glu Thr Ser Lys Pro Leu Arg Ala
20 25 30
Thr Asp Trp Gly Ile Glu Ala Glu Glu Leu Ile Asp Pro Gly Ser Leu
35 40 45
Phe Leu Tyr Glu Asn Gly Gly Gly Ser Ser Ser Cys Thr Ser Ile Asp
50 55 60
Pro Gly Tyr Thr Ser Val Ser Lys Ser Ser Lys Ser Ala Ser Val Asn
65 70 75 80
Ser Ser Ser Thr Asp Glu Leu Lys Ile Ser Lys Phe Ser Val Glu Ala
85 90 95
His Glu Gly Phe Ser Leu Gln Ser Ser Lys Lys Glu Leu Ala Val Asn
100 105 110
Asp Phe Thr Gly Met Ser Pro Ala Leu Glu Pro Ser Val Cys Ser Gly
115 120 125
Glu Pro Leu Leu Ser Leu Lys Leu Gly Lys Arg Ile Tyr Phe Glu Asn
130 135 140
Thr Ile Asp Lys Asp His Val Lys Thr Gln Asp Leu Pro Ser Val Met
145 150 155 160
Lys Ser Pro Asp Thr Pro Ala Lys Arg Asn Lys Ser Asn Cys Gln Gly
165 170 175
Thr Ser Ala Pro Arg Cys Gln Val Glu Gly Cys Asn Leu Asp Leu Ser
180 185 190
Ser Ala Lys Asp Tyr His Arg Lys His Arg Val Cys Glu Ser His Ser
195 200 205
Lys Cys Pro Lys Val Ile Val Ser Gly Ile Glu Arg Arg Phe Cys Gln
210 215 220
Gln Cys Ser Arg Phe His Gly Leu Ser Glu Phe Asp Glu Lys Lys Arg
225 230 235 240
Ser Cys Arg Lys Arg Leu Ser Asp His Asn Ala Arg Arg Arg Lys Pro
245 250 255
Pro Pro Asp Val Thr Gln Leu Asn Pro Ala Arg Leu Ser Ala Leu Phe
260 265 270
Tyr Gly Gly Met Gln Gln Leu Asn Pro Val Leu Ser Arg Ala Pro Ala
275 280 285
Ile His Thr Arg Ser Thr Ala Ser Phe Lys Trp Ala Asp Thr Gln Asp
290 295 300
Thr Lys Leu Ile Glu Lys Gly Pro Lys Leu Pro Ile Gly Gly Gly Val
305 310 315 320
Gly Glu Cys Ile Thr Ile Pro Ser Asn Gly Ile Pro Asp Thr Leu Lys
325 330 335
Ser Thr Gly Leu Gly Lys Ser Tyr Asn Glu Leu Leu Ser
340 345

<210> 1919

<211> 122
<212> PRT
<213> Eucalyptus grandis

<400> 1919
Lys Lys Tyr Ile Tyr Leu Gly Leu Phe Asp Ser Glu Val Glu Ala Ala
1   5   10   15
Arg Ala Tyr Asp Lys Ala Ala Ile Lys Cys Asn Gly Arg Glu Ala Val
            20   25   30
Thr Asn Phe Glu Pro Ser Thr Tyr Asp Gly Glu Met Ile Ala Lys Ala
        35   40   45
Ser Asn Glu Asn Ser Ile Tyr Gly Asp His Gly Leu Asp Leu Asn Leu
    50   55   60
Gly Ile Ser Ala Ser Ser Arg Gly Met Val Glu Thr Leu Glu Pro Ser
65   70   75   80
Asp Asp Met Arg Gln Gly Ser Ser Leu Arg Val Gly Asn Ser Ala Ala
                85   90   95
Ser Trp Gly Asp Pro Ser Val Glu Gly Leu Ser Met Thr Ser Gly Gln
            100   105   110
Pro Leu Leu Asp Gly Cys Leu Ser Tyr Arg
        115   120

<210> 1920
<211> 155
<212> PRT
<213> Pinus radiata

<400> 1920
Leu Ile His Gly Gly Gly Gly Asp Asp Tyr Val Gly Leu Cys Glu Gly
1   5   10   15
Gly Phe Asp Thr Ala His Ala Ala Ala Arg Ala Tyr Asp Arg Ala Ala
            20   25   30
Ile Lys Phe Arg Gly Val Glu Ala Asp Ile Asn Phe Thr Leu Thr Asp
        35   40   45
Tyr Gln Glu Asp Leu Asp Gln Thr Ser Lys Leu Ser Lys Glu Glu Phe
    50   55   60
Val His Ile Leu Arg Arg Gln Ser Thr Gly Phe Ser Arg Gly Ser Ser
65   70   75   80
Lys Tyr Arg Gly Val Thr Leu His Lys Cys Gly Arg Trp Glu Ala Arg
                85   90   95
Met Gly Gln Phe Leu Gly Lys Lys Tyr Ile Tyr Leu Gly Leu Phe Asp
            100   105   110
Ser Glu Glu Glu Ala Ala Arg Ala Tyr Asp Lys Ala Ala Ile Arg Cys
        115   120   125
Asn Gly Lys Glu Ala Val Thr Asn Phe Asp Pro Ser Leu Tyr Glu Lys
    130   135   140
Glu Ile Leu Glu Glu Arg Arg Glu Ser Gln Thr
145   150   155

<210> 1921
<211> 79
<212> PRT
<213> Pinus radiata

<400> 1921
Leu Ile Gly Met Pro Asp Thr Asn Tyr Gly Ser Glu Gln Thr Asn Ala
1   5   10   15

Cys Lys Lys Gln Lys Arg Ile Arg Ser Lys Asp Ser Gly Glu Asp Gly
20 25 30
Glu Asp Arg Gln Arg Glu His Pro Phe Ile Val Thr Glu Pro Gly Glu
35 40 45
Leu Ala Arg Gly Lys Lys Asn Gly Leu Asp Tyr Leu Phe Asp Leu Tyr
50 55 60
Glu Gln Cys Gly Lys Phe Leu Leu Asp Val Gln His Ile Ala Lys
65 70 75

<210> 1922
<211> 164
<212> PRT
<213> Pinus radiata

<400> 1922
His Gly Asn Arg Phe Cys Arg Thr Gly Ile Ser Ser Cys Ala Gly Ser
1 5 10 15
Gln Ile Pro His Cys Gln Ala Glu Gly Cys Lys Ala Asn Leu Ser Ser
20 25 30
Ala Lys His Tyr His Arg Arg His Lys Val Cys Glu Leu His Ser Lys
35 40 45
Ala Ser Thr Val Ile Val Gly Gly Phe Ile Gln Arg Phe Cys Gln Gln
50 55 60
Cys Ser Arg Phe His Pro Arg Ser Glu Phe Asp Glu Gly Lys Arg Ser
65 70 75 80
Cys Arg Lys Arg Leu Ala Asp His Asn Arg Arg Arg Arg Lys Pro Gln
85 90 95
Pro Ser Thr Cys Val Thr Ser Gln Ser Gln Ala Gly Thr Thr Gly Leu
100 105 110
Glu Asn Asp Asn Gln Thr Thr Lys Gly Ser Ser Gly His Ile Thr Thr
115 120 125
Ala Val Gln Asn Thr Pro Asn Ile Ser Arg Ser Thr Ser Ser Thr Ser
130 135 140
Pro Ser Leu Ile Thr Ser Val Pro Met Met Met Phe Pro Asn Asn Tyr
145 150 155 160
Lys Gly His Ser

<210> 1923
<211> 125
<212> PRT
<213> Eucalyptus grandis

<400> 1923
Asn Thr Thr Phe Ile Thr Pro Asn Ser Lys Arg Ile Ile Ser His Asn
1 5 10 15
Pro Ser Ser Val Asp Arg Pro Ala Glu Ser Ala Ala Leu Ala Lys Arg
20 25 30
Met Arg Arg Ala His Ile Gln Asn Ile Ala Gly Asp Cys Asn Leu Lys
35 40 45
Asp Arg Leu His Ile Gln Ser Gly Ile Thr Tyr Ser Gln Gln Gln Arg
50 55 60
Ala Pro Phe Ser Thr Leu Ala Gln Asn Phe Arg Thr Ser Asn Ser Pro
65 70 75 80
Pro Gln Gln Ser Glu Ser Asn Gln Lys Glu Ala Thr Asp Asp Ala His
85 90 95
Gly Thr Asn Val Gln Gly Thr Phe Leu Lys Lys Asp Asp Pro Lys Val

100 105 110
Thr Ala Leu Ile Gln Gln Ala Glu Leu Leu Ser Ser Leu
115 120 125

<210> 1924
<211> 50
<212> PRT
<213> Eucalyptus grandis

<400> 1924
Ala Ala His Gly Thr Asn Val Gln Gly Thr Phe Leu Lys Lys Asp Asp
1 5 10 15
Pro Lys Val Thr Ala Leu Ile Gln Gln Ala Glu Leu Leu Ser Ser Leu
20 25 30
Ala Val Lys Val Asn Ala Asp Asn Met Asp Gln Ser Leu Glu Asn Ala
35 40 45
Trp Lys
50

<210> 1925
<211> 257
<212> PRT
<213> Pinus radiata

<400> 1925
Ala Val Ser Tyr Leu Arg Ser Gly Ile Glu Glu Arg Glu Ser Glu Arg
1 5 10 15
Leu Thr Asn Lys Met Asn Met Lys Ile Arg Thr Ser Asp Thr Ser Thr
20 25 30
Pro Asp Asp Gln Gln Gln His Ser Gly Ala Val Lys Val Ala Ile Pro
35 40 45
Ala Val Ser Gly Asp Ser Gly Thr Ile Gly Leu Lys Leu Gly Lys Arg
50 55 60
Thr Tyr Phe Glu Ala Val Lys Ala Ile Pro Thr Ala Ile Pro Ser Pro
65 70 75 80
Ser Cys Val Pro Ala Ala Lys Lys Gln Gln Ser Ala Leu Gln Gly Thr
85 90 95
His Met Val Pro Arg Cys Gln Val Glu Gly Cys Glu Met Glu Leu Thr
100 105 110
Ala Ala Lys Asp Tyr His Arg Arg His Lys Val Cys Glu Leu His Ser
115 120 125
Lys Phe Pro Lys Val Ile Val Asn Gly Ile Glu Gln Arg Phe Cys Gln
130 135 140
Gln Cys Ser Arg Phe His Thr Leu Ser Glu Phe Asp Glu Gly Lys Arg
145 150 155 160
Ser Cys Arg Arg Arg Leu Ala Gly His Asn Gln Arg Arg Arg Lys Pro
165 170 175
Gln Leu Asn Ser Thr Ala Met Lys Ala Ala Arg Phe Ala Ser Thr Phe
180 185 190
Tyr Asp Asp Gly Arg Leu Ser Ser Ile Leu Met Ala Arg Ser Pro Phe
195 200 205
Met His Pro Arg Ile Ala Ser Asn Leu Glu Glu Asn Ser Leu Asp Phe
210 215 220
Lys Leu Gly Gly Tyr Gly Lys Gly Ala Trp Pro Arg Ile Lys Ala Glu
225 230 235 240
Asp Val Ser Ser Tyr Asp Gly Gln Leu Ser Thr Lys Tyr Pro Leu Pro
245 250 255

Ser

<210> 1926
<211> 230
<212> PRT
<213> Eucalyptus grandis

<400> 1926
Met Asp Val Gly Ser Gly Ser Trp Thr Thr Glu Ser Gly Ser Ser Ser
1 5 10 15
Pro Pro Pro Leu Glu Ser Leu Asn Gly Leu Lys Phe Gly Gln Lys Ile
20 25 30
Tyr Phe Gln Asn Asn Asn Ser Ser Asn Asn Ala Ala Ala Pro Lys Asn
35 40 45
Gly Ser Gly Ser Gly Ser Gly Ser Ser Ser Ala Ala Ala Pro Ala Pro
50 55 60
Gly Ser Gly Thr Pro Pro Lys Lys Val Arg Ala Ser Ala Gly Gly Gly
65 70 75 80
Gly Cys Gly Ala Ile Gln Gly Gly Gln Pro Pro Arg Cys Gln Val Glu
85 90 95
Gly Cys Arg Val Asp Leu Ser Asp Ala Lys Ala Tyr Tyr Ser Arg His
100 105 110
Lys Val Cys Gly Met His Ser Lys Ser Ala Thr Val Ile Val Ala Gly
115 120 125
Ile Glu Gln Arg Phe Cys Gln Gln Cys Ser Arg Phe His Gln Leu Thr
130 135 140
Glu Phe Asp Gln Gly Lys Arg Ser Cys Arg Arg Arg Leu Ala Gly His
145 150 155 160
Asn Glu Arg Arg Arg Lys Pro Pro Pro Gly Ser Leu Leu Ser Ser Arg
165 170 175
Tyr Gly Arg Leu Gln Ser Ser Ile Phe Glu Asn Thr Thr Arg Val Gly
180 185 190
Ser Phe Leu Met Asp Phe Thr Ala Tyr Pro Lys His Ala Trp Ser Ala
195 200 205
Pro Arg Phe Ser Glu Arg Thr Thr Pro Gly Asp Leu Val Pro Gly Pro
210 215 220
Gly Lys Val Tyr Pro His
225 230

<210> 1927
<211> 35
<212> PRT
<213> Eucalyptus grandis

<400> 1927
Gly Lys Arg Ser Val Glu Trp Asp Ser Asn Asp Trp Lys Trp Asp Gly
1 5 10 15
Asp Leu Phe Val Ala Arg Pro Leu Asn Pro Val Pro Ser Asp Phe Pro
20 25 30
Gly Arg Gln
35

<210> 1928
<211> 112
<212> PRT
<213> Pinus radiata

<400> 1928
Glu Glu Thr Cys His Gly Asn Thr Phe Cys Arg Thr Glu Ile Ser Ser
1 5 10 15
Phe Thr Gly Ser Gln Ile Pro Gln Cys Gln Ser Glu Gly Cys Lys Ala
20 25 30
Asn Leu Ser Ser Ala Lys His Tyr His Arg Arg His Lys Val Cys Glu
35 40 45
Phe His Ser Lys Ala Pro Thr Val Val Val Gly Gly Gln Ile Gln Arg
50 55 60
Phe Cys Gln Gln Cys Ser Arg Phe His Gln Thr Ser Glu Phe Asp Gly
65 70 75 80
Gly Lys Arg Ser Cys Arg Lys Arg Leu Ala Asp His Asn Arg Arg Arg
85 90 95
Arg Lys Pro Lys Pro Ser Gln Cys Thr Thr Ser Gln Cys Gln Ala Gly
100 105 110

<210> 1929
<211> 117
<212> PRT
<213> Pinus radiata

<400> 1929
Met Asp Glu Val Gln Val Lys Val Asp Ile Gln Ser Thr Asn Val Ser
1 5 10 15
Ala Asp Glu Pro Arg Pro Ala Lys Arg Gln Gly Phe Glu Leu Ala Lys
20 25 30
Ser Pro Glu Asn Val Ala Ser Lys Ser Thr Ala Leu Ser Ser Pro Lys
35 40 45
Lys Pro Lys Ala Ala Ser Ser Ser Ser Ser Ser Ser Pro Arg Ala Gln
50 55 60
Pro Pro Ala Cys Gln Val Glu Lys Cys Ala Ala Asp Leu Ala Asp Ala
65 70 75 80
Lys Glu Tyr Tyr Arg Arg His Arg Val Cys Glu Gln His Ser Lys Ala
85 90 95
Arg Ile Val Leu Val Leu Gly Leu Gln Gln Arg Phe Cys Gln Gln Cys
100 105 110
Ser Arg Phe His Val
115

<210> 1930
<211> 143
<212> PRT
<213> Pinus radiata

<400> 1930
Met Ser Ser Thr Ser Ser Tyr Ser Ser Pro Ser Pro Asp Thr Pro Ser
1 5 10 15
Gln Ser Ala Ala Val Arg Pro Thr Ser Thr Arg Asp Asp Ser Ser Val
20 25 30
Met Glu Pro Pro Arg Lys Arg Ala Arg Ala Asp Leu Asn Ala Glu Gln
35 40 45
Arg Arg Glu Ala Arg Ala His Arg Asn Arg Ile Ala Ala Gln Asn Ser
50 55 60
Arg Asp Lys Arg Lys Ala Gln Phe Thr Tyr Met Glu Gln Arg Val Ala
65 70 75 80
Gln Leu Glu Glu Glu Asn Gln Arg Leu Arg Ala Gly Met Gly Leu Ser

85 90 95
Gln Phe Thr Pro Ala Asp Asn Asp Lys Phe Val Ser Leu Glu Arg Glu
100 105 110
Ser Val Gln Ala Arg Glu Asn Arg Glu Leu Lys Glu Arg Ile Lys Ser
115 120 125
Leu Glu Ser Gly Trp Ser Ala Val Ile Lys Ala Leu Gln Ala Ser
130 135 140

<210> 1931
<211> 199
<212> DNA
<213> Pinus radiata

<400> 1931
aacaactgaa caataaaaat cacaagcact gaatctaacc atctctccac aaagcagaat 60
catttttag cagtgcagaa ttaaatcaaa acacaattgt tcggctgtaa agcaaagatg 120
aagcatcacg tagtgcacaa ttgctgtagc aagaaagctg taaagagagg cttctggtcg 180
cccgaggaag atttgaagc 199

<210> 1932
<211> 380
<212> DNA
<213> Eucalyptus grandis

<400> 1932
gggatctcta ggaacttcgt gaaaacgcgg acgccgacac aggtggcgag ccacgcccag 60
aagtacttcc tccggcggac caaccagaac cggcgacgcc ggcggtccag cctcttcgac 120
ataaccaccg actcgtactt tggggtttca agctctacaa tggaggaggg tcatcatcaa 180
gcgcaccaag tacccagctt ccctctttcc ttgcctccgg cggtttcacc gggaaccggc 240
gagaaactgc tggaaagtct gcgactaaga aaagagggct gccagtcgaa acccaccccg 300
tcgaagccca tccgcccggt cccgatcctt cccatccctc cgtcctcgaa aatggcggct 360
ctcgacctca acaaggcgac 380

<210> 1933
<211> 630
<212> DNA
<213> Eucalyptus grandis

<400> 1933
ggaccggcga gtttctccgg ggaagaccgg cggagcggcg gcggcggcgg cggcggcggg 60
gggaaaagct cccgcctttc gtcgtttcgc ggtccgtgga ataggcgaca agtcggattg 120
cgttgcgtgt cgcgcctcgc ttcgtatata agggcggctt gctgctgctg ctactggtct 180
gaggagtcaa ccgagctcga gcgttacgcg cttccccgaag gttccgccgg ctagggtttt 240
tttatatttc cctctgtttt tcctccgttc ggccacggtc gttgcttcgc tttaaaagga 300
ttggcgcgat tgagctgggc ggagcttgag ggttcgggcg gtggcggcgg aagtggagtg 360
gagcgggggg tggtggtgct cgacatggta atcgggttct gacgatgccg agctttgttc 420
cagcgacacc ggcctccaat tccattggtt cggagggaaa cgttgtccag tctaatcaaa 480
atacagattt tgggtcgttt gagcattcac ttggattccg catagaggat gccatcaacc 540
ttagcagaac agatcctgtc tttaatcaga taaaaccaaa cggtcgagct cttggaactg 600
acattcaagc tcgtgctttt aataagtctg 630

<210> 1934
<211> 524
<212> DNA
<213> Eucalyptus grandis

<400> 1934

ctttactatt ctaagtcctc tacttctggt ttggaatcac taatttcttg gtctcacttt 60
cgcttggcct atcacccgag agttctctgc agaaacttca cagccgtcct ctgctctttc 120
accaaccatt gtatgcctgg ttttactagg gctaggaaga tgagcatgtc cggagaagaa 180
gagggtgacc tgcgaagggg gccatggact cgcgaggaag acaatttgct cattcactcg 240
atcacatgcc acggcgaggg acgctggaat atgttggcga agagcgcagg attgaagaga 300
actggcaaaa gctgcagatt aaggtggctg aattacctga gacccgacat caagcgcggg 360
aatctcaccc cgcaagaaca gctcatgatc cttgaacttc accacaaatg ggcaacagg 420
tggtcgaaaa tcgcgcagta tctcccagga aggacagata acgagatcaa gaactactgg 480
aggacgcggg tgcagaagca agcgcgccag ctcaacatcg aatc 524

<210> 1935
<211> 440
<212> DNA
<213> Eucalyptus grandis

<400> 1935
gtgctgtgac aaggtgggat tgaagaaagg gccgtggaca cctgaagaag accagaagct 60
cctcgcttac atcgaagaga acggccatgg aagctggcgt gctttgcctt ccaaagctgg 120
tcttcagaga tgcgggaaaa gctgtaggct aagatggact aattatctta gacctgacat 180
caagagaggg aagttcagct tacaagagga acagaccata attcaactcc atgcccttct 240
tggcaatagg tggtcggcca tagcaactca tttaccgaag cgaacagaca acgagatcaa 300
gaactactgg aatacgcatc tgaagaagag attggcgaaa atgggaattg acccggtgac 360
ccataagcct aaaaatgacg ccctagtctc tagtgacggt caatccaaga gcgcggctaa 420
gctcagtcac ctggctcagt 440

<210> 1936
<211> 299
<212> DNA
<213> Eucalyptus grandis

<400> 1936
cggacccttc cgaaaaatgc agggctcagg agatgcggaa agagctgtcg cctgcggtgg 60
acgaactacc tgcggcccga tatcaagaga gggaggttca cgttcgagga agaggagacc 120
atcatccagt tgcatggtgt tttggggaac aagtggtcgg ctatcgcggc tcaattgccc 180
gggaggaccg acaacgagat caagaactac tggaacaccc acatcaagaa aaggctactt 240
aaaatgggga tcgacccggt gacacactcc ccacgcctcg atcttctaga tctgtcctc 299

<210> 1937
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 1937
ggcccctctc tctttctctc tctctgtgtc tgtctttctt gtggatccac caggctcgtc 60
tttaagaata tacagcagcg agcaggcaag acaacgcccc atctctcttc tctctctctc 120
tctctctgtg gctctgtctt tcttttgttt cttgccgttt tggggtgtgt gtgttgggtt 180
gtgtgaattg gagcgaggat ggggaggggg agactgcagc tgaagaggat agagaacaag 240
atcaaccggc aagtcacctt ctccaagagg agggcgggtc tgctcaagaa ggcccacgag 300
atctccgtac tctgcgacgc cgaggtcgcc ctcatcatct tctccgccaa gggcaagctc 360
ttcgagtact ccaccga 377

<210> 1938
<211> 278
<212> DNA
<213> Eucalyptus grandis

<400> 1938

tgttagcaag catgtatgta ctaactagta gtttttgtaa agcatgatgt cgaaaccttg 60
agtagcaagg tgaagatggc tgaagagacg gttaaaagag taaccggact gaacccaatg 120
ctgcatgtga tgtccgacat gtcttctgtg ggtgtgccac catttgatgg tagtccttct 180
gatacatcag cggatgctgc agttcctgtg cgagatgacc caaagcacca attctatcaa 240
accaattcta gtaaccccgc atcatctgct gacgatat 278

<210> 1939
<211> 342
<212> DNA
<213> Eucalyptus grandis

<400> 1939
acaggttgct caattaagag ttgagaattc tactttactg aaacgtctct cggacataag 60
ccagaagtac aatgtagcag ctgttgacaa cagagttttg gaagctgatg tcgaaacctt 120
gagagcagag gtgaagatgg ctgaagagac ggttaaaaga gtaaccggac tgaacccaat 180
gctgcatgtg atgtccgaca tgtcttctgt gggtgtgcca ccatttgatg gtagtccttc 240
tgatacatca gcggatgctg cagttcctgt gcgagatgac ccaaagcacc aattctatca 300
aaccaattct atgtaacccc gcatcatctg ctgacgatat ga 342

<210> 1940
<211> 376
<212> DNA
<213> Eucalyptus grandis

<400> 1940
gctgttttca catctttttg aacacgcccc taaagatccg ccctcagagc cgcctctgtc 60
cggtggctgc tgacattcca cctagaaatt cccgaccaag ttcccccttt ctaagccaga 120
ttgggaaagg ttcatatttg tccaacagta gtagtggatt taaatgggga ggcactcttg 180
ctgctacaag cagaagctga ggaaaggcct ctggtcacct gaagaagacg agaagctcct 240
caggtacatc acgcagtatg gccatggttg ctggagctct gttcctaagc ttgcaggtct 300
gcagaggtgt gggaagagct gcagattgag gtggattaac tacctgaggc ctgatttgaa 360
gaggggcaca ttctct 376

<210> 1941
<211> 169
<212> DNA
<213> Eucalyptus grandis

<400> 1941
aggaattgca gcacctggaa cagcaattga gtggggcctt atcatctgtc aaggagaaga 60
aggagcaatg gcttctggag cagctggagc gttcaagatt acaggagcag agggctatgc 120
tggagaatga aactctgcgc agacaggtcg acgagcttag aggtttcct 169

<210> 1942
<211> 188
<212> DNA
<213> Eucalyptus grandis

<400> 1942
cgagatctcc gtcctctgcg acgccgacgt cgccctcatc gtcttctcca ccaagggcaa 60
gctcttcgag tacgccaccg actgttgcat ggagaggatc ctcgagcgtt atgagagata 120
ttcatatgca gagagccagg ttctcacaaa caatgccgaa accaatggga actggacttt 180
ggaacatg 188

<210> 1943
<211> 321
<212> DNA

<213> Eucalyptus grandis

<400> 1943
ctctttcctc ctcaatcgga agggttcttc aacccaatgg acggcaacct ctcattgcaa 60
atcggataca atccgacatg tctggacgag atgaatgctt cggtttcgag ccaaaatgtt 120
gctggattca ttccgggatg gatgctttga acttactaca tcgacttgga gtgtgaatcg 180
agctggtgaa atttgtgcgt gtgtcccttg taaaattgcg atccgcaaga caataagtac 240
ataatatttt ggagctgtga tgacataaaa agaggaaggc cacccttttcc tctctcatga 300
tcagaacttt tgataatgtc t 321

<210> 1944
<211> 905
<212> DNA
<213> Eucalyptus grandis

<400> 1944
ctagtggatc ccaagtctcc atcatcatga tctccagcac cggcaagctc cacgagtaca 60
tcagcccctc cacctcaacg aagaagatgt acgatcagta tcagcaggcg ctcgaggttg 120
atctctggag ctctcactat gagaagatgc aagagaacct gaggaagctg aaggaggtga 180
acaagaagct tcagctggag gtcaggagga ggttcgggga aggactgaat ggtatgagct 240
tatcggaatt gtgcggtctt gagcaagata tggacaacgc cgttagcctg atccgtgaac 300
ggaagtacaa gacgctcggc aatcaaatcg acaccgccag gaagaagaaa aagaatgctg 360
aggaaataaa caaaagtctc ctgcaagact ggaccaatct gatcaagcat ctgagggagg 420
acgacccgca cttcggaatg gtcgacaacg gcagggatta cgaggctgtg atcgggtata 480
cagacgccgc cgccgccgct cgcttgtaca ccctgcgcct gcaaccggac cagcccaatc 540
ttactagcgg aggaggatcg gagatcacga cctacccttt gctcgagtga gacgaaggcg 600
tcggaaaccc ttccgacgtc ctcatattgt ctattcattc tgtctaaggg ccgattccat 660
ctggaatcct gacttcattg gtatgtcgaa gtttaggact ttgttatgtc atcctattca 720
gcagctaagt ttgttcttat cagaagctgt tcctattatg gaccgagggc gatttcctct 780
agggcatcat gtgttttaag acaagtctat atataagact actttaaaac aatcgaatga 840
gttggtgcaa aaaaaaaaaa aaaaaaaaaa acaaaaaaaa aaaaaaaaaa aaaaaaaact 900
tcaag 905

<210> 1945
<211> 337
<212> DNA
<213> Eucalyptus grandis

<400> 1945
gcggcaagga gcaactaaat gtaacactct gattactagg gacctctcat tgtctttgga 60
tggcatttaa atcaccagga ggaatcacgt ggctgaaaca tttacttgtg aagaactttt 120
acttagggga gcatctaaaa tgcaggaatg ggctcatcaa gaaggcctac gagctctccg 180
tcctctgcga catcgacatc gccctcatca tgttctcccc ctccgaccgc gtgagccact 240
tttcgggaaa aagaaggatc gaggatgtct tgacccgttt cattaacctc accgaccaag 300
aacggacact cctagatgtc caggatcggc gcacacg 337

<210> 1946
<211> 301
<212> DNA
<213> Eucalyptus grandis

<400> 1946
caaaccttcc cagggtttcc atttccattt ccttcataga atgctccgtt cctttcttat 60
ccctttttgg gtactctctg ttctcatggt cctttcataa agttttctca tctcttaacc 120
aagactggta agagagagag agatagagag tttattagtg ggtgagggtg ttaaaaaatg 180
ggaagaggga gggttcagct gaagaggata gagaacaaaa ttaacaggca agtgaccttt 240
tccaagagaa ggaatgggct cctcaagaag gcttatgagc tctcgctcct ctgtgatgct 300

g   301

<210> 1947
<211> 354
<212> DNA
<213> Eucalyptus grandis

<400> 1947
gccaagtagc accccgtttg ccccacatta tctgtgatat gtaaacgtgg tgggcctctg 60
ttagctacaa tatgattggc atcatttaag cttttgcgta atcatcagtg ttctcaattt 120
gcaaaatacc attaacggat cttgcagcat ggaaagcatt ttagagaggt acgagagata 180
cacttatgcg gagcgacagc aagtggccac tgattcccct caagtgcagg gaagttggtc 240
gcttgaatat cccaagctcg tggctaggat cgaagtcttg cagaggaaca taagaaactt 300
gagcggagaa gagcttgatc ccttgagtct gagagagctg cagtatttgg agca 354

<210> 1948
<211> 456
<212> DNA
<213> Eucalyptus grandis

<400> 1948
gtttcctctt caggagaaag caaggagctg tagaggaatt gaaaatggtg caagaagtcc 60
gaaagggtcc atggacagaa caagaagatt tccaactggt gtgctttgtt ggactttttg 120
gagatcgccg atgggatttt atagcgaagg tatcaggttt gaaggtggcg ggagaaaata 180
ataggtatgt tcgttttaaa gcctgggggt tttttggaag gagctacttc taaccgccca 240
gctttattcc aggattgaat agaacaggaa aaagctgcag actacgctgg gttaactacc 300
tgcatcctgg cctaaaacga gggaagatga cacctcaaga agagagactg gtgctcgaac 360
ttcattccaa atggggaaat agatggtcaa gaattgctcg caagctacca gggcgaacgg 420
acaatgagat aaagaactat tggaggactc atatga 456

<210> 1949
<211> 382
<212> DNA
<213> Eucalyptus grandis

<400> 1949
atttttcaac tccccccccc caccccgaat caaatcccat tccctctctc cctccctccc 60
tttttttccc ccaatctttt gttgcgtttt caagcaccca cgccccccaa tctccaacgc 120
catcaatcaa gctcaagcac catcacctca agaagaaaga aggaaagaaa gagagaagga 180
ccggagaccc gacagagggt cgcgcgcgca cgagacatgg gacgatcccc ttgctgcgag 240
aaggcgcaca ccaacaaggg cgcgtggacc aaggaagagg accagcgcct catcgactac 300
atccgcctcc acggcgaagg ttgctggcgc tccctcccca aatctgccgg gcttctcagg 360
tgcggcaaga gctgcaggct ca 382

<210> 1950
<211> 371
<212> DNA
<213> Eucalyptus grandis

<400> 1950
gttgagcagg tacagtttct tgaaaagagt tttgaagtag agaacaagct cgagccagat 60
cgcaaaatcc agttggcaaa agacctcgga ttgcagccac gacaggtagc gatatggttt 120
cagaatcgtc gtgcacggtg gaagacgaag cagctagaga aggattatga aactttgcaa 180
gcttctttta acaccctgaa gtcagactac gacactctca tcaaggagcg gaatgatctg 240
aaagccgagg ttcttaacct cacggacaag ctgcttcaca agggaaatga gaaggagagt 300
tccgagtcgt ccagcaaatc atctcaaggg ctattccaga accccattgc tgattctgtt 360
tctgaggacg a 371

<210> 1951
<211> 356
<212> DNA
<213> Eucalyptus grandis

<400> 1951
aaaaagcata agctccctga cccataatcc ctagtatcga tggccaggtt tcccagggtt 60
gacaagagca acagcaagaa gacagtgaag aagggcgctt ggagtgcgga agaagaccag 120
aaactggtgg cttatatcaa gagatatggc atttggaact ggactcacat ggccgaaccc 180
gccggtttag cgagaacagg aaagagttgc cggcttcgat ggatgaacta tctgaggccc 240
aacatcaagc atggaaacat cacccaagaa gaggaagaaa tcattattaa cttgcaccga 300
gttcttggta accgttgggc cagcatagcg agcagacttt caggaaggac ggacaa 356

<210> 1952
<211> 475
<212> DNA
<213> Eucalyptus grandis

<400> 1952
ctcccctctc ctggctctcg ctctctctct ctctctcagt tctttctcgg acgggtgtct 60
gtgcgtggct tttgatcggt catcacctga ggccgcgtct gcaagcaagt gaagaaggag 120
gacaaggaat atggcgagag agaagatcaa gatcaagaag atagacaatg tgacggcgag 180
gcaggtgacg ttttctaaga ggagacgagg gcttttcaag aaagccggag agctgtcggt 240
cctgtgcgat gccgaggtcg ctgtcgtcat ttctcggct accggcaagc tctttgagta 300
ctccagctcc agcatgaagg acactcttga gaggtacacc ctccaccaca ataatcttga 360
gaatatggac caaccttctc tcgagctgca gctggagcat agcaataaca tgaggttaag 420
caaggaagtg gcagaaaaga gccatcgact caggcagttg aggggtgagg atctt 475

<210> 1953
<211> 541
<212> DNA
<213> Eucalyptus grandis

<400> 1953
atcgcccccg ttctctccct ctctctccct ctccccccta acgtttctgg ccctcttctt 60
tgtctggaca aaaagatggg aagaaagtgc tctcgctgtg ggaacatagg ccataactca 120
aggacttgca caactttcat gggggcagca agtgcttgtg ggctcaagct cttcggtgtt 180
caacttgacc tatcttcttc ttctcctcct tcatcatcag catctagtgg ttctgctcat 240
ccttattcac ttgtcataaa gaagagcctc agcatggatc gtctgtcttc ttcctcggcc 300
tcctcctcgt ctccatcttc atccctctcc tcgccaagag ttcttgctga tgaacactgc 360
aataagacct ccctcggata tctctctgat ggcctcgccg ctagatccca ggagaaaagg 420
aaaggagttc cgtggacgga agaagagcat cggacattct taatggggct agagaagatg 480
gggaaaggcg attggagagg catctccagg aactatgtga ccacgagaac cccaacccaa 540
g 541

<210> 1954
<211> 437
<212> DNA
<213> Eucalyptus grandis

<400> 1954
cgcggttggc gtcagataga agagcatgta ggaaccaaaa ctgcagttca gatacgaagt 60
catgcccaaa agttcttctc taaggttgct cgcggggtaa gtggcagcag cgagggtgtg 120
attaaaccaa ttgaaatacc tcctccacgg ccaaagcgga agccaatgca tccatatcca 180
cgcaaatctg tcgattcaaa ggaggtgaaa ctgtcctatc aacaagagag gtctccatct 240
ccaatctctt cggtagcaga tgaaaacact ggatctccta cttcagtttt gtctgctcat 300

ggttcagaca tgctgggatc agcatctttg catcaacaaa acagatgctc ttcaccgact 360
tcatgtacca ctgatgtacc ctctattggt ctagctgtaa ttgagaagca acctgaaata 420
ttcaaagaag aagataa 437

<210> 1955
<211> 470
<212> DNA
<213> Eucalyptus grandis

<400> 1955
attcggtcac gagttcactt cgtcgcctgc ctcgtcgtcc tccctgtcct cctcgcgaat 60
ctccatcggc gagaactctg ataaagcatc cctcggctat ctgtcggatg gcctgctggg 120
tagatcccaa gagaagaaga aaggagttcc atggacagag gaggaacaca gaaccttctt 180
ggtggggctt gagaagcttg ggaagggtga ttggagaggc atctctagga gctatgtgac 240
cacaagaaca ccggcccagg ttgcaagtca tgctcagaaa tatttcctcc ggcaagtgag 300
cttcaacaag aaaaagcggc gctcgagcct ctttgacatg gttgatgtca aaaccgcggc 360
gggtgatcgt ttaggcagtt tgacggccaa gccgagtgag tcagttccta attgcaaaat 420
gggaaccttg atgtctcatt tgcaagttca tgatgccaga accactcagc 470

<210> 1956
<211> 384
<212> DNA
<213> Eucalyptus grandis

<400> 1956
ctgaaatttc gtcttcaagc catggaacaa caggcgcaac tacgcgatgc cctgaatgaa 60
gcattgactg ctgaggtgca acgattgaag cttgcgacag cagagctcaa ctcggaatct 120
catccttcaa agtgcatggt ttcacagctt cctgtgagct cccaaatgtt ccagctccat 180
cagatgcaac agcagcagca gtctcagcaa caaactcaat cacagcagca aaatggtaac 240
acaaccacaa agtcagagtc gaatcaatag gacgtgggtg gtccaacaac tccggcgcct 300
ggacaaacct cacttgtctc ggttcttcga caccctgcag tagttctcta gtgcatccat 360
tcattcatta gtttttgcat atgc 384

<210> 1957
<211> 388
<212> DNA
<213> Eucalyptus grandis

<400> 1957
gtttcctctt caggagaaag caaggagctg tagaggaatt gaaaatggtg caagaagtcc 60
gaaagggtcc atggacagaa caagaagatt tccaactggt gtgctttgtt ggactttttg 120
gagatcgccg atgggatttt atagcgaagg tatcaggttt gaaggtggcg ggagaaaata 180
ataggattga atagaacagg aaaaagctgc agactacgct gggttaacta cctgcatcct 240
ggcctaaaac gagggaagat gacacctcaa gaagagagac tggtgctcga acttcattcc 300
aaatggggaa atagatggtc gagaattgct cgcaagctac cagggcgaac ggacaatgag 360
ataaagaact attggaggac tcatatga 388

<210> 1958
<211> 455
<212> DNA
<213> Eucalyptus grandis

<400> 1958
tgacgatgtt tgtggaggag gaaagagacc ggaaaggcct ttcttttgca catatgacgg 60
ggaggaaaat ggagacgatg attatgatga gtatttacac caacctgaga agaaaaggcg 120
attgtctatc gagcaagttc tgtacttgga gaagagcttt gagactgata acaagcttga 180
accagataaa aaagttcagc ttgccaaaga actcgggttg caacctcgtc aagttgctat 240

ttggttccaa aatcgaaggg caagatggaa aactaagcaa atggagaagg atttcgataa 300
attgcaagct agttttaact gtttgaagtc tgattatgaa agtcttctca atgagaagga 360
gaagctcaaa gctgaggtta ttcatttgac acaccagcta gagcaaagga gcaacggaat 420
tctgaaccat tcgacatatc tgaacaattg cacac 455

<210> 1959
<211> 965
<212> DNA
<213> Eucalyptus grandis

<400> 1959
aagagaaaag atacaatccg ccgtggaccc aagaaggtca aagcccgctc tctgcacgat 60
gatgggtagt agtagtagta ctacttatct tccgtgaggt ctctcgaatt agggttttct 120
tgattttcgc caacccccca atatttatct tttctttctt tcctttttttt cgcttctctc 180
gcagttcacc tagaaaagct acgagggctt cgcaccagtt ccgtacgggg ctgcttcagt 240
gcgtagcgtg tactatctcg tctcaggtgg tgtttcgctt ttatggggat gtccttcggc 300
gggggcgttt cgaagattct tgtagctccg tagcttgtcc tgcgggattt ggttgggccg 360
atcgtcaggt ttcttccagt taaagttgcg atttttaagg ggagcgaggg cgtttgagct 420
ggtaaagttc gaagcttttt gagttcggcc gccagggttg tgtcctagag ataactggag 480
gcgaaagggt gcgttccggt ccggtcagca tccgctgact caggagatgg ttgggggttg 540
ttggtggcgg cggtgatgat gattcatggg tagtaggact agagttggcg gtggtggaga 600
tgatggcaga gttgtgaacg gcatgccgag cttcgtccct caattaccca cttcgaattc 660
catgggatca gaaggaaact ccattcgttc ttctcgaatt acagactttg gaacacttga 720
gcagtctctt ggataccgca tagaagatgc agttgacctc agcagaaatc ctgtcttcaa 780
tcagatgaaa tcaagtgccc aggctcttgg ggctgatgtc caatttggct ctttgaataa 840
gtccctttca tcctcagaca gaaatctttc tgtgaatatt gtggggtctc agactctatc 900
tatgcataga gaatcacaat caaacttagt atcaataccc ggtgctcatc gtgagaactg 960
ggggg 965

<210> 1960
<211> 599
<212> DNA
<213> Eucalyptus grandis

<400> 1960
gtccggtccg gtctcctccc tcccttcctc cctccttcct tctctctctc tctctctctc 60
tctctcgccg tccaaccgta cggactctcg gttttgccgc gaaacggaac ggagcggacc 120
cggtccctcg ccgtcgccgg tgcgagagaa tgcctccccc acgcgccgcc acccccgacg 180
tcgccggcga cgagagctcc ggcgccgacg ccggcgccgg ggagatcatg ctgttcgggg 240
tgcgggtggt cgtggactcg atgaggaagt gcgtgagcct gaacaacctg tctcagtacc 300
agcacccgca ggacgcgaat ccgcccaacg ccagcggcgg gagcggcggc aacaaggaag 360
aggccgccaa aggctacgca tcggccgacg acgccgcgca caacccccggc ggtggccgcg 420
agcgcaagag aggagttcct tggacagagg aggagcacag gctgttcttg ttgggattac 480
agaaggtggg gaaaggagat tggagagcga tatccaggaa ctttgtgaag acccgcacgc 540
ccactcaggt cgcgagccat gcccagaaat atttcctgcg ccgaagcaac ctcaatcgc 599

<210> 1961
<211> 377
<212> DNA
<213> Eucalyptus grandis

<400> 1961
ggagaacgtg gcttctgggt cgactgagcg gccgagaatt agacatcagc atagccagtc 60
tatggacggg tcgacgagta ttaagcccga gatgcttatg tcgggttcag aggatgcatc 120
tgctgcagac gccaagaagg ccatgtctgc tgcgaagctt gctgagcttg cactgattga 180
tcccaagcgt gcaaagagga tctgggcaaa cagacaatcg gctgcaaggt caaaggaaag 240
gaagatgcga tacatagctg agctagaacg gaaagtacaa actttacaaa ctgaagcaac 300

aactttgtct gcacagctga ctctgctgca gagagacaca aatggtttga ctgctgagaa 360
tagtgaattg aaactgc 377

<210> 1962
<211> 317
<212> DNA
<213> Eucalyptus grandis

<400> 1962
aagtaaaatc ccctctcggc tcctctttct tttatgtaca ttccaagaac agcgacagat 60
aaggccccga gatctgcaag tcttcttcac actactcgct gatggctgat tctgaacatt 120
cttcttctga tgacacttac gtggactcta gagaagagac aagtgaagaa tcaaagctag 180
atttctctga agatgaggag acgcttgtaa ttagaatgta caacctggtt ggagaaaggt 240
ggtctctaat tgctggtaga atcccaggga ggacagctga agaaatcgag aagtactgga 300
attccagata ttcaaca 317

<210> 1963
<211> 471
<212> DNA
<213> Eucalyptus grandis

<400> 1963
ctcctctctc ataagtcata attcacaggc gcggcacaag gcacgaaaag ataaaaaaaa 60
aaacgatggc cggtgaggag ccctattctg ccgacacgaa ctcggacact ttcgctgatg 120
aagaaacgct gattccgagt tcttccgagg ctcttgagtc cgcctgggtt cctacttcct 180
cgaccgctca tcatggttca aatcagtgg tcaattttga ggacgtttgt ggaggaggag 240
acaccaatac tgcgccgagg ccatacctcc gacagattga tctgaaggaa gaagccgtcg 300
aagaggacta cggcgacggg aactttcagc ctcctggtaa gaagcggcgg ctatcggccg 360
accaagtcca tttcctcgag aggcactttg aggtcgagaa caagctcgag cccgagagga 420
agatccagct cgccaaggac ctcggcctgc agccgaggca ggtcgcgatc t 471

<210> 1964
<211> 372
<212> DNA
<213> Eucalyptus grandis

<400> 1964
tgacactgaa gattcgaaga agaaagagag gcatattgtg acttggtctc aagaggagga 60
tgatatactc cgggagcaaa tcggtataca tggaactgag aactggtcga ttatcgcatc 120
aaagttcaag gataaaacga cgagacaatg cagaaggaga tggtacacat atttgaattc 180
tgacttcaag aaagggggtt ggtcacccga ggaagatgtg cttttatgtg aggctcagaa 240
gattttcggc aacagatgga cagaaatagc aaaggtggtt tcaggcagga ctgacaatgc 300
cgtaaaaaat cggttcacaa ccttgtgtaa gaaaagagca aggtacgaag ccttagcgaa 360
agagaataca ct 372

<210> 1965
<211> 424
<212> DNA
<213> Eucalyptus grandis

<400> 1965
atgcaatttt gagcgtcgcg agtaagccgg agcgagggga gagcgatggg caggcagccg 60
tgctgcgaca agcttggggt gaagaaaggg ccgtggacgg cggaggagga ccggaagctg 120
gtcaacttca tactcaccca cggccaatgc tgctggcggg ccgtccccaa gctcgctggg 180
ctccgccgct gtggcaagag ctgccgcctc cgctggacca actacctccg ccccgatctc 240
aagcgtggcc tcctcaatga agccgaggaa agcctggtta tcgatctcca tgccactctc 300
ggcaataggt ggtccaaaat agcagctaga ctacccggaa gaacggacaa cgagatcaaa 360

aaccactgga acacccatat caagaagaag ctcattagga tgggcattga tccagtcact 420
caca 424

<210> 1966
<211> 427
<212> DNA
<213> Eucalyptus grandis

<400> 1966
cccggctccc gctcgtccaa tcggcgcgtc gagaggaaga aaggtaaccc atggacggag 60
gaagagcatc gaaggttttt aattggtctc cagaaattgg gtaaaggaga ctggcgaggg 120
atagctcgtg actttgtgac tacaaggact cctactcaag tggcaagcca tgcccagaag 180
tattatatcc ggcagagtaa tgctggccga agaaagaggc gctccagcct ttttgacatg 240
gctccagata tggtttgtct tctctatgat gttgcttctg cacattcatt gcactccgtt 300
caaatatccg gctcgtgcat gttttaagat gtttcttag ctcatgctga catatgcttt 360
aaccatgcac tagtgatgat tacatgataa gggccattcc tcttagacct ttgggacaca 420
tcaaatg 427

<210> 1967
<211> 373
<212> DNA
<213> Eucalyptus grandis

<400> 1967
cttgaaactt ctccgctctt ctcttctctc tcttgaaagg aaggatgaga aaaccttgtt 60
gtgacaagca agacacaaac aaaggagcat ggtcgaagca agaagaccag aagctcatcg 120
actacattcg caagcacggc gaaggatgtt ggcgaactct tcctaaggct gccggtctcc 180
tccgttgcgg gaagagttgt aggctaagat ggataaacta tttgcggcct gacctcaaaa 240
gaggcaactt tgctgaggat gaagaggatc ttatcatcaa gcttcatgct ctcctaggca 300
accgatggtc gctaattgct gggagattgc ccggacggac agacaatgaa gtgaagaact 360
attggaactc aca 373

<210> 1968
<211> 197
<212> DNA
<213> Eucalyptus grandis

<400> 1968
ggtcgcccga ggaagacgag aagctcttca actacatcac ccgattcggc gtcggctgct 60
ggagctctgt accgaagctc gccggactcc agagatgtgg aaagagttgc aggttgaggt 120
ggataaacta cctgaggcct gacctcaaga gggggatgtt ctctcaagaa gaggaggatc 180
tcattgtcag tctccac 197

<210> 1969
<211> 365
<212> DNA
<213> Pinus radiata

<400> 1969
gcaaaatctt atttgggttc ccttacagaa actatacagt ccctgaatgc tgagcttgaa 60
agaactagat cggagttggt tgaagcaaag aagagagagg aagagattat ttcaaaagaa 120
gctgaaagag tagagaagaa taagagagaa gtggaaaatc tggaactcaa tcttctgcaa 180
actactgcag aagctgggcg agctaaactg gaactagaga ctgcttatga agaggtgcag 240
agcgcaagac ttgaaactgc gcaattgagg gctgctttgg aagccacaga gggaaaattt 300
gaagcaatgc tgagtgagac taggttggag gcagagcatg tcaaaggagc tattgagaag 360
tataa 365

<210> 1970
<211> 260
<212> DNA
<213> Pinus radiata

<400> 1970
gaaatattgg tgactcaaat agagcaactt caaagaaagg aacggatgtt tagcgaagag 60
aataattttc tccgaaagcg gattgtcgat ccccattccg ttttgacaac tcctgcaagt 120
ggatctggaa gcctccaaag aagtgaagtc gagactcaac tggttatgag accgcccagt 180
tcaaatgctg attttctttt taatagttct cattgataat cactgtattc atatctttgt 240
tattaattta ttatgaaatg 260

<210> 1971
<211> 332
<212> DNA
<213> Pinus radiata

<400> 1971
tctctctggt gtgggggca ctcaaaatgg ggaagacgaa gatggagatt aaacgcattc 60
aaaaccctag ccgccgccag gttactttct cgaaacgcaa gaacggattg ctaaaaaagg 120
cattcgagct ttctgttctc tgcgatgctg aagtcgccct gatcattttc tcggaaactg 180
gcaagatctg cgagtttgca agccacgacg acatggcaac aatactggaa aaatatcgaa 240
tatacacgga aacacatgga aacatggagt cctcgtcggt ccaaagcgtg aagattggtg 300
aatcacaact caaagcgttg cgtgagaaga tg 332

<210> 1972
<211> 413
<212> DNA
<213> Pinus radiata

<400> 1972
cttcgaggtg ctaatggctg cacaatacct tcaattggat tgacaagcat agaacgcgtg 60
gaagttcaga ctcaactggt catgagacct ccacatgcca cagagatgga cgacaacttt 120
atggatgttg acaacgtgcc actatctgga tgatgttttt ctgtttctgt tacataatat 180
ggccactgat gacaccatac tttattttgg tatttgcttt aaaaatgact ctttctttca 240
ctgacttttg atggactgta tgatagttga tttttggtcc tcatacttta gcaaatggtt 300
atgggtacct gttttggccc gaggccttgg aggatctact ctctatatgt tactgtttta 360
ctttttacat ttgtgctcac tgactcatat gatggacttg cccacatatg atg 413

<210> 1973
<211> 521
<212> DNA
<213> Pinus radiata

<400> 1973
agaagatggg agcttggtga tctgtgaaag atctctctct gcggctcaag gtatgcctat 60
ggtatcacag tctcaaagct ttgtgcatgg tgaactctta tctagtgggt atttgatccg 120
accctgtgaa ggcagaggag cattagtcat catggttgat cacaggaact tagaggcttc 180
aagtgtccct gaagcacttc gtcccttata tgagtcatct acattctttg cacagaagat 240
gacagttgag gcttcttatc atcttcaagg taaagttcaa ccggaaatga tttccttatc 300
aaaaaaactc caacagccat gtaatgtacg gtcatacagt caacggcttt gcagaggctt 360
taatgaggca gtcaacacat tacctgatga tggctggatg tcattgtcca aagatgggct 420
gggggatgtc actatttgtg taaagtcttt gtcaaattgc cgaaaccaaa tgtcatcgtc 480
aaatagccta tgttcaacag acatggcat cttgagtgaa a 521

<210> 1974
<211> 461

<212> DNA
<213> Pinus radiata

<400> 1974
gaaaatgaaa gccttcgagc tcgtttaagg catatgaatg gcgatgacat caattcgttg 60
aagcttcccg aactcttcca tctcgaacag cagcttgaaa cggccgcaac ccaagttcga 120
agaagaaagg atcaagtttt agacaacgaa aaaatcaagc gaaggaacaa gatgcgccgt 180
aaggaagacg agaacatcat tcttcacgaa atgcttgacc agcaccatgg acaaatggag 240
gaggataacg ctcagattaa tttcctattt tgccaaccat taaatagatc ggatactact 300
ttccctgcat cactactccg cctgcaacca aatcagccaa atttgcagga tattggatat 360
taattactga acggaccatc tgtgtgcatc ataatgagaa ggtcatggac ttctcagtaa 420
cagtcaatta tgaaaattcg aagtttgtga ggaaaaaaaa a 461

<210> 1975
<211> 499
<212> DNA
<213> Pinus radiata

<400> 1975
tgagccccca ggtggagcac cgacctttca gcccacatga agacgccacc atcatacaag 60
cccatgcgcg gcatggcaac aagtgggcta cgattgcccg cctcctaccc gggcgcaccg 120
acaacgctat caagaaccac tggaactcga ctctgcgacg tcgctatcat ggcgagaaag 180
accagagcaa cggctagct gtgaacttgg agtcggcagc tgaggacaaa gaaacgatga 240
ctccgatgac acctgtcaca gccacggcaa cggcaacggc aacggcaatg ccagtggctt 300
tagtgttccc aacggctgca gacaacgtca ggaagcggag caacagtagc tgcagcgcta 360
atgacaatcc aggagatgcc gaggtcgaat cctgtaggct taagaggctc aatttttctg 420
aatcccccatc tagttctgaa aatattaata ataataacaa taatgaagaa gctgttagtg 480
gccattgcaa ttcggccgc 499

<210> 1976
<211> 419
<212> DNA
<213> Pinus radiata

<400> 1976
ctcagagctc gacaaaacct acatacattc gtctgtcatc cctcccagaa atacctagtg 60
agggcgatcg aggtcgaaag gggcatttta cgccattgaa gcggtgtgca tagggtcaac 120
tctgagaact gattgtgtct tccttcggag ggagagggtt agcgaggttc agaaagagag 180
agaaagagaa agtagtccta agggactgtt taaaatgggg cgaggtccag tccagctgag 240
aaggatagaa aacaaaataa atcgtcaagt aacgttttcg aagagacgga atgggctgat 300
aaagaaggcg tcagagctgt caatcctgtg tgatgcggaa gtggccttaa ttgtcttctc 360
caacaaaggc aaactctatg agttctccag ttccagtatg accaagattt tggaaagat 419

<210> 1977
<211> 459
<212> DNA
<213> Pinus radiata

<400> 1977
gcaagctggc ctccagcgtt gcgggaagag ttgcaggctt cggtggatca actacttgag 60
accagatctg aagcgaggca cattctctcc gcaggaagaa aatctcattg ttgaactgca 120
ttcagtcctc gggaacaggt ggtctcaaat agcaacacac ctgcccggaa gaactgataa 180
cgagatcaag aacctctgga actcgtgcat taaaaagaag cttaggcaac gaggcataga 240
tcctaacacg cacaggcctc tcagcgaggt gaatgccgag gcaggggatt ctaagaacga 300
taacagcaat aaagaagtcg aaactcaggc agccatggac gaatctcatg tttctgcagg 360
gaacgaattc aagcatctga atgcaattcc tagggctgat acggccaatc ctaaattctt 420
tcatgttccc gttgaggaca acactttgat tgctagcga 459

<210> 1978
<211> 331
<212> DNA
<213> Pinus radiata

<400> 1978
ggagagtgca ccaccgagat ccacgcagtc gaagagaaag agaaatctgc aggaggagtt 60
gaaaatgagg tgcacacgat ggcaaggtct cccattttcc tccaaaccaa aagttaaaaa 120
gggtctctgg tcgcctgagg aagatgagaa actcatcaat tatatgatga agaacggcct 180
tctcggctgc tcctggagct atgtggccaa gcagattggt ctgcagagat gcggaaagag 240
ttgcagactg agatggacta actacttacg tcctggcctt aagcggggtg caatttcgcc 300
tgaggaggag caattgatca tacacttaca g 331

<210> 1979
<211> 375
<212> DNA
<213> Pinus radiata

<400> 1979
gttctatcaa acttcttatc caccataccc atttccatta gacggctgaa ttctcagatc 60
caatttgttc cagccctcta gcgacagaag aagatgggaa gagcaccctg ttgtgacaag 120
gcaaatgtca aaaaaggacc ttggtcacca gaagaagaca caaaactcaa ggcgtttatt 180
gaacagcatg gcactggtgg caattggatt gctcttccac agaaagctgg tctgaaaagg 240
tgtggaaaga gctgcaggct tagatggttg aactatttga ggccagatat aaggcatggt 300
ggtttctcag aagatgaaga taacatcatt tgtagcctct atgcaagcat tggaagcatg 360
gtgtctataa ttgca 375

<210> 1980
<211> 749
<212> DNA
<213> Pinus radiata

<400> 1980
gagcttcatc cgccattatt gggtttcaat tcgatcttga tttgccagag acgatgtgaa 60
ttaccattct gtgggcaaaa gcgagagagg aggagaatgg tgaggggaaa gacccagatg 120
aaaaggatcg agaacgacac gagcaggcag gttacgtttt ctaagcgcag gaatgggtta 180
ctgaagaaag cttatgagct ctctgtgctc tgcgatgccg aagtgggact tataattttc 240
tcaccaagag ggaaactata tgaattcgcc agtcccagca tggaggagat tttggaaaag 300
tataaaaaac gttcgaagga aaatggcatg gctcagacaa cgaaagagca agatactcag 360
tattccaaac attccaaaca aaagctcgca aatatggaag aacagattag gattcttgaa 420
tcaacccaaa gaaagatgtt gggggaaggg ttggaatcgt gttcaatggc agaattaaat 480
aagttagaga gccaagctga acgaggattg agccatatac gggctcgaaa gacggaaata 540
ttggttgacc aaatagaatg tcttaaaagg aaggaacgtc tcttaagcga ggagaacgcc 600
ttactcagta gaaagtgggt tgatcgtcaa tccgtggacg gttccggttc aacatcatct 660
tcaattggat tgggaagcat cgagcagatc gaagttgaga cacaactggt tataagaccg 720
ccaaatgcac aggatcactg ttctgtaaa 749

<210> 1981
<211> 339
<212> DNA
<213> Pinus radiata

<400> 1981
cttggctggg gaagacaacc cgctgcatta cggacattta gccagagatt gtgcaagggt 60
ttcaatgagg cagttaatgg cttcacagat gatggatggt ctttgatggg taacgacgga 120
atggaggatg taactattct cgtcaattca tctccaagca aactgttcgg tcaacagttt 180

gcttcttccg atgggcttcc tgctcttggt gggggcatcc tatgtgccaa ggcttctatg 240
ctattacaga atgttcctcc agcattgctt gttcgtttct tgcgagaaca tcgatcagaa 300
tgggcagata gtaatattga tgcctattca gcagcctct 339

<210> 1982
<211> 373
<212> DNA
<213> Pinus radiata

<400> 1982
ggattccgac ccttccggct aaagctgctt catttctgtg tgtattgaag atggggagat 60
ctccctgctg tgaaaaagct catacaaaca aaggggcgtg gaccaaagaa gaggacgatc 120
gcctcatcgc ccacattcga actcacggcg aaggttgctg gcgctcgctt cccaaggccg 180
cagggctgat gcgctgcggg aagagctgca ggctccgatg gataaactac ctgcgtcctg 240
atctgaagcg tggaaacttc tcagaagaag aagacgaact catcatcaaa ctccactccc 300
tactcggcaa caagtggtct cttattgcag gcagattgcc cgggcggacg gacaacgaga 360
taaagaacta ctg 373

<210> 1983
<211> 404
<212> DNA
<213> Pinus radiata

<400> 1983
aggcaataag tgttattatt gagaacttga ctgtggctga gattttcagg gatggaccgt 60
tcaaactctg cgactggaga agaagatgta ctgtcaagat gcagggaaag aaaacgtttc 120
atgaagctgg caattgagaa caggtataaa ctagcaacag ctcatgtggc ttacatggat 180
tctcttaggc gtatgggcac cggtcttcgg ctttttgctg aaggcgaaac gatgtcggag 240
tcttcctatt ccacatcacc catagggact tctgaacttg ctgttgtctt gcctgagaaa 300
tccgtatccc catctccatt tccatcctca tccccttcac tttctcaacc tcaaagtccc 360
cgttcagaga gagcagaatc tcgatctcca ctcgacagct tctc 404

<210> 1984
<211> 332
<212> DNA
<213> Pinus radiata

<400> 1984
cggacggctt ggttcaaaac tctcgtgaaa gaaaaaaagg cgttccttgg acggaagaag 60
aacataaaat gtttttatta gggcttcaca aattgggaaa aggcgactgg agaggtattt 120
ccagaaactt tgtcacttcc agaactccta ctcaagttgc tagccacgca caaaaatatt 180
ttcttaggca gagtaatttg aacaaaagga aacgaaggtc gagcctgttc gatatatcca 240
ctgattcgat ggaagattgc tatcaaggaa tcccggagct gtcaccggtg atgcacgatc 300
tcagcctggg ccagaattca tctctgacct ct 332

<210> 1985
<211> 526
<212> DNA
<213> Pinus radiata

<400> 1985
ctcctctccc gtctccaaac ccaagctaag gaaaggcctc tggtcgcctg aggaggatga 60
taaactcatc aactacatga tgaaaaacgg ccagggttgc tggagcgatg tcgccaagca 120
agctggtctg cagagatgcg gaaaaagctg taggctgagg tggattaact atttaaggcc 180
cgacctcaaa cgcggtgcat tttcacccca ggaagaacaa ttgatcatac acttgcattc 240
cattctcggc aacaggtggt ctcagattgc agcccgtttg cccggacgta cggacaacga 300
gatcaagaat ttctggaact cctgcataaa gaagaagttg aaacaccttt cggcctccac 360

caacaacagt aaatctatct ctgcacctaa tcgtaccagt accatgaatt catcgatcac 420
gcccttttct gaatcgtctg ccgagccatt ggaggtcatg gcaacaaggt atcagccatc 480
gaatgctttt aatcatgaag tgcccactgc agaaaatcaa gttttg 526

<210> 1986
<211> 366
<212> DNA
<213> Pinus radiata

<400> 1986
atcagactca catcaaacga aactggagcc gtgaagggtt agttgcggtg ttaaattcta 60
ggacagcttt ccgtattaga aagaggcgcc ctttacggga gtcggcacca aaccagagtg 120
gagagaaata atgggtaggg ctccctgctg cgaaaaggtt gggctcaaga agggcccctg 180
gacgccggag gaagatcaaa agctcctcgc ttacatacag gagcacggcc atggcagctg 240
gagggctctg cctcagaaag ctgggttgct aagatgcggg aaaagctgca gattgcgttg 300
gactaactat ctaagaccag atatcaagcg gggaaagttc aacccacagg aagaacagac 360
aattat 366

<210> 1987
<211> 476
<212> DNA
<213> Pinus radiata

<400> 1987
ccgaactccc cgctgtgatc aaatgggatt aaaaaaggga ccctggacac ctgaagaaga 60
tcaaatactc atctcctata tcaacaagca tggtcatgga aattggcgtg cgctgcccaa 120
gcaagcagga cttatgcgat gtggaaagag ttgtcgcctg cggtggacaa actatctgag 180
acctgacata aaacgtggga acttcagtct caaggaagag cagactatta ttcatctgca 240
tcaaatcctt gggaaccgat ggtcagctat tgcctcacac ctccccggaa gaacagataa 300
tgagataaaa aatgtatgga acactcattt gaaaaaacgc ctcctgcaaa ttggggtaga 360
cccagtaacc cacgcgccta gaggatacaa tgtatctaac tgttacaccg ctgtgaatat 420
ccgggaccat catggcgagc aggccgatca tcagctccaa agccatgtct gcgttt 476

<210> 1988
<211> 151
<212> DNA
<213> Pinus radiata

<400> 1988
ggacacctga ggaagatcga attcttatct cctatataaa aaggaatggc catggaaagt 60
ggcttgcact gccgaaacaa gcaggactta gccgatgcgg gaagagttgt cgactgcggt 120
ggacaaacta tctgagaccc aacataaaac g 151

<210> 1989
<211> 461
<212> DNA
<213> Pinus radiata

<400> 1989
gtaacccatc aggagttctc ttctgtccaa ccccccctaac tctccacttc acagatctca 60
tgagacttaa cctgttctaa cgttgcaggg caataaccct ctttgtctct tgttctgtat 120
tttttgcttt ttgaccacag agcaggttca acaagcttgt acaaaggacg cactgaaaat 180
gaaggatttt tactgcagct tatgttaagg tttattttat ataaacgatg ggaactgggg 240
aagaagcaac gccaactaag cctgctgcca aaccatcttc ctcctcccag gagacaccga 300
caacacctgt ttatccagat tgggcagctg ctttccaggc atattatggt ccaggtgcta 360
ccccacctcc tcctgccttt tttgcttcaa cagtgggatc tgcaccaact ccacatccat 420
acatgtgggg tggacagccg ttgatgccac cttatgggac t 461

<210> 1990
<211> 418
<212> DNA
<213> Pinus radiata

<400> 1990
gtagattcct tgtctatcaa gagggtgcac aaggtttgtt tttaagaaca cagacaggca 60
gacagacaga gacgtgatca tggggcgagg gaagattgaa ataaagaaaa tagatgatgt 120
aacgagcaga caggtaactt tctcaaagcg caagatgggg atattcaaga aagcccacga 180
gctgtctgtt ttatgcgatg cagaggtggc tgttctcatc ttttcaaaca ccggaaggct 240
ctacgactat gctagttcaa ggtgtatgga acgaactatt gagagatatg aaaaatgtac 300
caaagcaatt aattgcccaa catcagatcc cattgtcgag aataagagcc caattcagga 360
aggcattgaa atattgaggc agaaacttcg tgcattacaa agattgcaaa gaaatctg 418

<210> 1991
<211> 321
<212> DNA
<213> Pinus radiata

<400> 1991
actaaagcag ctataaagag actgcagtct cagataatgg ttgcattcca ggcagttgat 60
acaacttctg cagcaattct gaaattgaga gaagatgaac tctatcctca actcgtggag 120
ctatctaaag ggctaatgca gatgtggagg gccatgtatg aatgccacca ggtccaaaat 180
catattgtcc aacaggtgag gcatttgggc aatctggcaa gcgcagaggc cacaagtagt 240
taccatcagc aggcaaccat tcaattggaa gctcaggtga ctgcttggta tgacagtttt 300
tgtagaatga taacgagcca g 321

<210> 1992
<211> 390
<212> DNA
<213> Pinus radiata

<400> 1992
gagaaaacct aagtcctctc gcagcaagca agccacgcat tccctctcta cgactcgggt 60
ttggtgtaga aggcagagat ttactttgtt tctgcttgtt tgtcggtctt caccttcacc 120
ttcagacaac atttgtctga accgcggaac tagctcttga aatattgaaa cccacctaaa 180
tcgcagggga ttggtggatg ttagcagtgg tcacagagcg gtagagctag ggaaaatcca 240
tatacaacta catacacaga tacccattat cagccatggg cgctccgaag caaaaatgga 300
catcagaaga agaaggtgct ctgcgagcgg gcgtggagaa gtatggcgcc ggcaagtggc 360
agaccattct caaggaccca gagttcgcct 390

<210> 1993
<211> 476
<212> DNA
<213> Pinus radiata

<400> 1993
gcagtggtca tatggatggg ggatccggag aggaccaaga tgccgccgat caagatcacg 60
atcacgatca cgatcatgat cacgagcagc agcagacgcg gaggaaacgt taccacagac 120
acactgctcg tcaaattcag gagatggaag cgttgtttaa ggagtgtcca catcctgatg 180
acaaacaaag gcagcggctc agcattgaat tgggccttaa gccgcggcag gtgaaattct 240
ggtttcaaaa tcggcgtact cagatgaagg ctcaacagga tcgctcagac aacgccattc 300
tccgtgcaga gaatgaaaat ctgcggaacg agaacgtagc actccgagaa gcaattaaaa 360
atggtgcttg tccaaactgc ggagggtcta catcgctggg agagatgcct ggattcgacg 420
aacaccattt ccgtatagag aatacgcgct taaaggagga gcttgatcga gtgtct 476

<210> 1994
<211> 429
<212> DNA
<213> Pinus radiata

<400> 1994
gataaactga gtgagcaaaa ttactcagaa agaaggaaga gcagaacaat tcgcccggag 60
gaatgggttg cacacaaggg caacgacaag gggaatggga agggaaaggc gtcccctcga 120
attcctcaag gcgaagtcta agaaaaggtc tctggtcacc ggatgaagat atagaactta 180
ccacctatat catgagaaag ggcctcatgg gctgctggaa ctatatcgcc aagcaggctg 240
gtctgcagag atgtggaaag agttgcaggc tgagatggat taactacttg cgacctggtc 300
ttaaacgttg tgcaatttca ccccaagaag agcgactgat aatacagtta caatccagtc 360
tcggtaacag gtggtctcaa atcgcggcac atttaccggg acgcacagac aatgaggtca 420
agaattact 429

<210> 1995
<211> 321
<212> DNA
<213> Pinus radiata

<400> 1995
agcgcgtctc tgtgaaaatg ggagatctc cgtgctgtga gaaggctcac accaacaaag 60
gtgcctggac ccaacaagaa gatacccgcc ttgtcgccca cattcgagcc catgggcaag 120
gcggctggag ctcgcttccc aaggcagcag gactgctgcg ctgtgggaag agttgcaggc 180
agcgatggat aaactacctg catccagatc tgaagcggag taacttttca gaggaagaag 240
atgaactcat cgtcagactc cattcgctcc tgggaaacaa gtggtctctt attgcgggga 300
gattgccggg gaggacagac a 321

<210> 1996
<211> 402
<212> DNA
<213> Pinus radiata

<400> 1996
ccgcctccta cccgggcgca ccgacaacgc tatcaagaac cactggaact cgactctgcg 60
acgtcgctat catggcgaga aagaccagag caacgggcta gctgtgaact tggagtcggc 120
agctgaggac aaagaaacga tgactccgat gacacctgtc acagccacgg caacggcaac 180
ggcaacggca atgccagtgg ctttagtgtt cccaacggct gcagacaacg tcaggaagcg 240
gagcaacagt agctgcagcg ctaatgacaa tccaggagat gccgaggtcg aatcctgtag 300
gcttaagagg ctcaattttt ctgaatcccc atctagttct gaaaatatta ataataataa 360
caataatgaa gaagctgtta gtggccattg caattcggcc gc 402

<210> 1997
<211> 375
<212> DNA
<213> Pinus radiata

<400> 1997
ttagcttgca gaaaatgagg tgcaaaacag ggcaggcaca aggcgtattg gaagttgaag 60
gcactcaccc tgctccttcc aaaccaaagt taagaaaagg tctctggtca cctgttgaag 120
ataaccagct caccaactat atcctgagaa gaggcctcgt cggctgctgg aactatgtgg 180
ccaagcaggc tggtctgcaa agaaccggaa aaagttgtag gctgagatgg attaactact 240
tacgccctgg ccttaaacgt catccaattt cacgccaaga agagcagctc atcatagaat 300
tacaatccat tctcggtaac aggtggtctc aaattgcggc acagttgccg ggacgcacgg 360
acattgagat caaga 375

<210> 1998

<211> 466
<212> DNA
<213> Pinus radiata

<400> 1998
acaacagctt gaatctagtc gaataaagct gaaacaaatt gaacaagagc ttgagcgagt 60
gaagcaacag ggaatttcca tcaatggaca tttgggcgat cataatggat caggggctgc 120
tgcatttgat atggaatatg gccgttgggt tgaagaacaa aacagacaag cccgtgagct 180
cagggcttct ttacaagcac acctgacaga tagcgaactt tgtgttctgg tggataatgc 240
tatagctcat tatgatgaac tctttcgtat gaagggtgct gcttccaagt tggatgtttt 300
ccatcttatg tcaggcatgt ggaaaactcc tactgagcgt tgttttatgt ggatgggagg 360
ttttcggcca tcagagcttc tgaagattct tactccacaa attgagcctt taacagaaca 420
gcaatcattc gcagtatcta gcttgaaact gtcatcacag caggca 466

<210> 1999
<211> 243
<212> DNA
<213> Pinus radiata

<400> 1999
ctgagagtta agtgattgtt gggagggaaa agagaaaaaa gaggagatca agaatggtga 60
ggggaaaaat ccagatgaag aggattgaga atacggccag caggcaggtt acattttcca 120
agcgtagaaa tggattgctg aagaaagctt acgagctctc ggttctctgc gatgcagaag 180
ttggacttat gatttctcg ccaggaggaa agctctatga attcgccaat accagcatgg 240
aga 243

<210> 2000
<211> 642
<212> DNA
<213> Pinus radiata

<400> 2000
cgagcgcgaa agactgaaat attggtgact gaaatagagc aacttcaaag aaaggaatgg 60
atattaagcg aggagaatgc tttcctcggc aaaaagttcg tgcatcctca ttccgtttcg 120
aaaactcctg gaagtgaatc gggaagcatc caaaacagtg aagtcgagac gcaactggtt 180
atgagaccgc catgtacaaa tgctcatttt cttattaata gttctcattg ataatcaatg 240
tattcgtaac tgtgttatca atttattatg aaaattttat attaataaaa ggtaaagctg 300
cttctcatat cgcacctaat tgttcaccac gtccaaaaaa aggctcttgc caagtgaact 360
aaatgttttt tgaaccgaag tctgtcttcc aaactcagta tgtaagcttg ctatgaatac 420
atactttaaa ggttttgtat tagcattacg agcggagttt tcctcattca tccgatgagc 480
atgaagagtg aggagtataa tattgacgca tgtggagaat ttaatgttgc atatactcct 540
acgtgtatat atgtgatgtt ttatatatat atatatatat atataatatc gatttgaatc 600
tataaaattt taaattatat atttagttta aaaaaaaaaa aa 642

<210> 2001
<211> 485
<212> DNA
<213> Eucalyptus grandis

<400> 2001
gagagagtct gcaaactgcg cgtcccgcgt cgccgatcgc cgggagaatc gccgccggcg 60
agatatgggg aaccagaagc tgaagtggac gaaggaggag gaggaggcgc tcctcgccgg 120
aatcgccaag cacggcgccg gcaagtggaa gaacatcctc aaggaccccg aattcgcccc 180
cgccctcgtc aatcgctcca acatcgacct caaggacaag tggcgtaact tgagcgtcgg 240
tacttctgga caaggttcta gagataaaca aaggctgtca aaagtgaaaa gtctgatggc 300
cgctcctcag tccagtaccg tgcctctaaa tccacaagct catgctgcat ctactgatgt 360
tgcattggtc aattcttcaa atagctttca agatggcaaa aattattcac tgtgggtatc 420

tgtgctcctt ttccttttca gtaacggcaa tctttttac ttctatcctt tgttatcctt 480
tctgt 485

<210> 2002
<211> 356
<212> DNA
<213> Eucalyptus grandis

<400> 2002
cgactcgtca gtcagctcgt gcactccttg caattcatga ttatttctcc cgacttcggg 60
cccttagttc cctctggctt gcccgtccaa gagaatgaag aggtcatggt ctatgcaggc 120
tgacatgtac attggtgatc tttaggaagc tatcagtttt gaagtagttt cggacctaga 180
actggtttat ttctagtttt cttcattttt tttttctttg gctataatta ttttttcttt 240
cttagacacg aagtcacaga gaattgattg atggtatgct aagctatcat aggttgggat 300
tgcattgttc tcattgaaga tactgctaat tgtgtaggca ctcctgttca ttagtc 356

<210> 2003
<211> 713
<212> DNA
<213> Eucalyptus grandis

<400> 2003
tctccatcca aattcccacc ttcctccctt cctccctttc cccctttcct tccttctgca 60
ccgaaggaag cccccgcttc gcaagccacc tctcggtaaa gttcgctcct ttttgggtcg 120
gcgaatcttg ggtcgatcga tggcttcgag gaaggaggtg gatcggatca agggaccgtg 180
gagccccgag gaggacgagg ccctccgcct cctggtgcag aagcacggcc cccggaactg 240
gtccctcatc agcaagtcca tccccgggcg gtccggcaag tcgtgccgcc tccggtggtg 300
caaccagctc tccccgcagg tggagcaccg ggccttcacc ccggaggagg acgacatcat 360
cgtccgcgcc cacgcccggt tcggcaacaa gtgggccacc atcgcccgcc tcctctccgg 420
gcgcaccgac aatgccatca agaaccactg gaactccacc ctcaagcgca agtgctcccc 480
cccgctctcc ccgctcgccg aggaagggaa caacagggcg ttcgacgctg ccgcggggta 540
cgacggggac ttgagcccgc gggagcggcc ggcgaagcgg tcggcctccg ccgggccttg 600
cctgagcccc ggcagcccgt ccggatccgg catgagcgac tccagcgtgc acttcgtgta 660
ccggcccgtc gcgaagaccg gccccgtggt gcccccgacg gtcgaggcga cgg 713

<210> 2004
<211> 341
<212> DNA
<213> Eucalyptus grandis

<400> 2004
acaggttgct caattaagag ttgagaattc tactttactg aaacgtctct cggacataag 60
ccagaagtac aatgtagcag ctgttgacaa cagagttttg aaagctgatg tcgaaacctt 120
gagagcaaag gtgaagatgg ctgaagagac ggttaaaaga gtaaccggac tgaacccaat 180
gctgcatgtg atgtccgaca tgtcttctgt gggtgtgcca ccatttgatg gtagtccttc 240
tgatacatca gcggatgctg cagttcctgt gcgagatgac ccaaagcacc aattctatca 300
aaccaattct agtaaccccg catcatctgc tgacgatatg a 341

<210> 2005
<211> 1403
<212> DNA
<213> Eucalyptus grandis

<400> 2005
ttctttcttc accctctgtg catgaatttt cttgggccat gctcatgcat tctcctcctc 60
tttcttcatc accatcgtca tcgtctctga ctttgatggg ttggcgaggg ggggagctga 120
gggagaggga gaggagagga gagaggagcg gctgtgcgtt cgcgtgcagg gctgcacgag 180

gtgttctcgt ttcgggcgcg ggcgctctgc ttccatggct gcttttaagt aagacgccaa 240
aagaaaacct ttttgctctc tcgagtgtca tgaactcgca ctgaaagtgc gcgccgaacc 300
gagaagaaga agaagaagaa gaagaagaag aaagagaaac catcccctta gaaaacgcga 360
aaaagagtaa atagtaaaaa gagcaagctt gatcttactt gatctaaaac attaagatcc 420
ttctctgttc gagagaagtc acagtcccgc tttttccaga catgaagaga cttggcagct 480
cagattcgtt gggtgctttg atgtccatct gcccaccttc agaggaattg cagcacagtc 540
cgagaaacgg caaccccatc taccacagca gggacctgca gtccatgctg gagctgggcc 600
tcgacgagga aggctgcgtg gaggaccagt ccgccggcgg cgggggcac gtcggcggcg 660
agaagaagcg gcggctgagc atcgaccagg tcaaggccct ggagaagaac ttcgaggtgg 720
agaacaagct cgagccggag cggaaggtga agctggccca ggagctgggg ctgcagccgc 780
gccaggtggc cgtgtggttc cagaaccgcc gcgcgcggtg gaagacgaag cagctggagc 840
gggactacgg cgtgctcaag tccagctacg aggcgctcaa gctcagctac gacgccctca 900
agcacgacaa cgaggccctt cacaaggaga taaaagagct gaaatcgaaa ctccgggaag 960
aagacgacaa ccccgagagc aatctctccg tcaaagaaga ggtcatcatc cccggccacg 1020
acgtgtcgga caagatccgg gccgcagacg acggtgacga cgacaccaaa cgctctcctc 1080
cccctccgat caccgccccg cctcgcgagc tgagcttcaa caatggtggg ctgaaggacg 1140
ggtcgtccga cagtgactcg agtgcaattg tgaatgaaga gaacgcggcg accagcagca 1200
gcagcccgaa ccccgccgtc cagagccacg gcggcttctt gaaattcatg gggtcatcgt 1260
cctcttcggc ctccccaccg ccgtcgccac cggcttcctt cggcgggtgc ttcagcttcc 1320
agttccagcg agcgtaccag cctcagcctc agcctcctca tcaccaccac caccacagtc 1380
cgtacgtgaa gatggaggag cac 1403

<210> 2006
<211> 283
<212> DNA
<213> Eucalyptus grandis

<400> 2006
gagaggtaca agagtgcatg cagtgattcc tcacatccac agtccgtttc tgacgtgaac 60
actcagtttt atcagcaaga agcatccaag cttcggagac agataagaga aatccaggtc 120
tcagataggc atcttctagg tgagggtata agtgatttga gcttcaagga tctcaagaat 180
ctcgagagca aattagagaa atcgatcagc cgtgttagat caaagaagaa tgagatgctt 240
tttgccgaga ttgagtacat gcagaagagg ggccttgtgc agg 283

<210> 2007
<211> 252
<212> DNA
<213> Eucalyptus grandis

<400> 2007
agagaacaag ataaacaggc aggtgacctt cgctaagagg aggaatgggc tgctcaagaa 60
ggcctatgag ctctctgtcc tctgcgatgc tgaggtcgcc ctcattatct tctccacccg 120
cggcaagctc tatgagttct gcagcagccc tagcatgctc aaaacgctcg accgttacca 180
aaagtgcagc tatggatccg ttgaagttaa caaaccctcc aaagaactag agaatgccta 240
ccgggagtac tt 252

<210> 2008
<211> 386
<212> DNA
<213> Eucalyptus grandis

<400> 2008
tctagatcca ccaccagcag aaggaggtag aagggggaga aggaggagaa ggaggaggag 60
atgggtagag ggaagataga gatacagaag atagagaacg acacgaacag gcaagtgacc 120
tactcgaagc ggaggaatgg catcttcaag aaagcccacg agctcaccgt cctctgcgac 180
gctagggttt ccatcctcat gctctccggc aacaagaagc tccacgagta catcagcccc 240
accaccacga caaaaaggat gattgatgat taccagaagg ctcttgggat cgatctgtgg 300

actacacact acgatagaat gcaagaggag ttgaggaaac tgaaggaggt taataacaat 360
tttcggaagg aaataaggca gatatt 386

<210> 2009
<211> 123
<212> DNA
<213> Eucalyptus grandis

<400> 2009
gagaaacctt atgggggaag atttggggac cttgaactcg aaggagctcg agcagctcga 60
acgtcaactt gaggcatcat tgaagcatat taggtcaact aagactcagt gcatgctcga 120
tca 123

<210> 2010
<211> 581
<212> DNA
<213> Eucalyptus grandis

<400> 2010
cttagggcta gcttgcttac atcttcacca tcttctgcgt agtttcaaca ttttagagtt 60
gaagaaaagg agaaaaaact aggcaaactt gcgaccatgg tttttccaac ccaagccacg 120
cccgaggagt ccccgcagag gaaaatgggg aggggaaaga tcgagatcaa gcggatcgag 180
aacacgacga atcggcaagt gactttctgc aagcggcgga atggcctcct caagaaggca 240
tatgaactct ccgttctttg cgaagccgag gtcgccctca tcgtcttctc cagccgcggc 300
cgcctctatg agtatgccaa cgatagtgtc aaagcaacca tcgagaggta caagaaggct 360
tgctcagatt cctccagtag cggatccgtt tctgaagcta atgttcagtt ttatcagcaa 420
gaatccgcca agttgcaaca acagattaat aacatgcaga acaataacag gcaactggtg 480
ggtgactcaa ttgctgggat gaatatgaag gatatgaaga ctacggagca aaaactagaa 540
aaagcaatcg ctaaaattcg cgccaaaaag aatgcgattt t 581

<210> 2011
<211> 538
<212> DNA
<213> Eucalyptus grandis

<400> 2011
tcagcacaag gaacaaatgc tggttgaagc taacagagaa ttaaggaaga agctggaaga 60
gagcaataca agaatccctc tccgccttgg atgggaagct gaggatcaca ataacatttc 120
atacagccgc cttcccatgc agtcgcaagg attgatcttc cagcccttag gcggcaaccc 180
gacattgcag atcgggtaca atcctgcagg ctcgaatgaa ttgaatgttt cggctgccga 240
ccaacatccc aacggattca ttcccggatg gatgctctga atcgttccgc aagtgaactg 300
cttgctggaa gttccatatc aagtacattt tccagttttt gctatgatat atgactcttc 360
ttcttctgga tgacctatac gaagatccat cattcgtgga tattgtccat ggacgtaccc 420
taaaaggaag gacagtatga atccaatcta gcttactatt ttgtataaga ataaacatct 480
gtgctgctga tatttggaat tcatctatgt tatttaatga aaaaaaaaaa aaaaaaa 538

<210> 2012
<211> 341
<212> DNA
<213> Eucalyptus grandis

<400> 2012
aggcagcaaa gagctcgagt ccttggaaag acagctagat gggtcattga agcagatcag 60
atcacgaaga actcagtaca tgttagataa gctgactgat cttcaacatc gggaacagtt 120
gctccacgaa gcaaacagga ccttgaatca acggttgatg gaaggatacc aagtgaatgc 180
gctccagtta aatcaacatg ccgaggaagt cggaggatac ggtcatccac cgccgccgcc 240
actgccgcca cagccacttg ctcagcctca cagcgaagct tttttcaatc ccttggaatg 300

tgaacccact ttgcaaatgg gataccagcc cgatccagtg t 341

<210> 2013
<211> 934
<212> DNA
<213> Eucalyptus grandis

<400> 2013
gcgccatgac gcggcgatgc tcccactgct gcaacaaggg ccacaactcc aggacctgcc 60
ccgtccgcgg cggcggcggg gacggcgggg gcgcggcggc cgccccctcc tcctcctccc 120
cctccacctc ctcctctggc gccgcggcgg cggcggcggc ctcggcctcc ggcggcgggg 180
tgaagctgtt cggggttagg ttaacggacg ggtcgatcat gaagaagagc gccagcgtgg 240
ggtgcctgtc cgccgcccac taccactcct cgtcctccgc cgcggcatcc ccgaaccccg 300
gctcgtcccc gatcgacggg agcgacggct acctgtccga cgatcccgcg cccggctccc 360
gctcgtccaa tcggcgcgtc gagaggaaga aaggtaaccc atggacggag gaagagcatc 420
gaaggttttt aattggtctc cagaaattgg gtaaaggaga ctggcgaggg atagctcgtg 480
actttgtgac tacaaggact cctactcaag tggcaagcca tgcccagaag tattatatcc 540
ggcagagtaa tgctggccga agaaagaggc gctccagcct tttgacatg gctccagata 600
tggctactgc tgaccaaccc tcacatccag aagaaacatt tctgcctcct ttggtcagac 660
ttaacgatga tactaactca acaacttcaa ccagtatggg actcgatttg gaaagaacgc 720
ctatggagac ctcgcaccca gaaacatctg aagggggcgg tgatgttgcg atggaatcaa 780
ttgatcaagt acctcttgta ccctgttact tcccatacta tttaccacta ccctttccca 840
tgtggccgcc caacatggcg cctcctgaag atggaagggt ggtggagaca tctcatcacc 900
gtgtgctaaa gccaatccca gtaattccaa aaga 934

<210> 2014
<211> 372
<212> DNA
<213> Eucalyptus grandis

<400> 2014
ctgggacact tcttcttccc ctcctacttt acttgaatcg gtcgacaatt ttatcctgtc 60
tccagctaga actggaaagg ctgaatcaga gtgtctttct ccccgtaata gtgggctgct 120
ggatgcttta gttcacgagt cgaagactat gagcagtgcc aaaaataatt cacctgaaaa 180
aagtacaaat tcatctgctc tgacacctgg tgatataagc agttccactt tggatatttg 240
caagtctgaa tgggaagagt atggtgaccc catttctcca ccgggccatt ctgcaacttc 300
agttttcaat ggttgtactc ctttgagcac tagtggaagc tcactggatg aacaaccgta 360
tcccgatacc tt 372

<210> 2015
<211> 411
<212> DNA
<213> Eucalyptus grandis

<400> 2015
gcacataaga aggaagctct tgaaccgagg gatcgatccg gcgacgcacc ggccattgaa 60
tgagcccgcc caagacgcaa ccactatttc gttcgcagcg gctccgtcaa aacaagaacc 120
gcgagacgac gccatcgccg ccgcgctcgg ctacaagaac gagaacaacc cgacaacaac 180
ggcagcaacg gttcaagaaa agtgtcccga cttaaatctt gagctcagaa taagccctcc 240
ttgccagcag cagcatcagc ctgatgcgtc gatgggaatg gttgagggaa atcactgctt 300
tgcctgcagc ctggggttgc agaacagcaa ggagtgcagt tgcaggagag gagcgagcgg 360
gggaagcagc gcccatggcg gctacgactt tttggggttg aagacgagcc g 411

<210> 2016
<211> 356
<212> DNA
<213> Eucalyptus grandis

<400> 2016
ctcgtcccca aggtttttt gcggaagtat ggagttcccg agtgaatttt cagaggcctc 60
ttcacagaag agaatcgggg ggagagggaa aatagagatc aaacggatcg agaacacgac 120
gaaccggcag gtcacctttt gtaaacgccg gaacgggttg ttgaagaagg cttatgagct 180
atcggtgttg tgcgatgctg aagtggcgct tattgtcttc tcgagccgtg gcaggctcta 240
tgaatatgct aacaacagtg tcagaggaac aattgagagg tacaagaaag caagcagtga 300
ttcctccaca tcccacagtc cgtttcctga agtggaacac tccagtttta tccagc 356

<210> 2017
<211> 356
<212> DNA
<213> Eucalyptus grandis

<400> 2017
agagagtaat ggggagaggg agagtggagc tgaagaggat agagaacaag atcaacaggc 60
aggtgacctt ctcaaagagg aggaatgggc tgttgaagaa ggcctatgag ctctctgtgc 120
tgtgtgatgt tgaggtcgcg ctcctcatct tctccagccg tggcaagctc tatgagtttg 180
gcagcgctgg cccttctggc ataaataaga cgcttgaacg ataccaacgt gacaacttca 240
ctcctcaaga caacgttgct gaacatgaga cacaacagaa ctggtttcaa gagatatcaa 300
aattgaaggc aaaatatgaa ctcttcaaca aactccagaa gcatttgctt ggaaaa 356

<210> 2018
<211> 495
<212> DNA
<213> Eucalyptus grandis

<400> 2018
caaggaagca acagtcttgc tgcaaccaga agctagttca aactagtgga aggttgtggg 60
cgcttccagt gctttgtaaa gccaccccaa gaaagcaaaa accatcgttg ccctaccaca 120
aagttcgcag cgttcgtcga cgagaggagt ctgttgattt atccaagtgt tgtttaaagt 180
agatctcctt tttcggtgaa catggctcgt ggaaaagttc agatgaagcg gatcgagaac 240
ccggtgcacc ggcaggtcac cttctgcaag cgccgcgcgg ggctcctcaa aaaggccaag 300
gagctctccg ttctctgtga cgctgacatc ggcctcttca ttttctcccc ccacggcaag 360
ctctatgagc tggccaccaa aggaaccatg aaggggctga tcgagaggta catgaagacc 420
acccaaagcc aagctgctct gaccgaggaa gccacaccga gccaaccact ggatgccaaa 480
gaagagatta acata 495

<210> 2019
<211> 613
<212> DNA
<213> Eucalyptus grandis

<400> 2019
agaaagagag acagagatat gggaagaggg aaagtagagc tgaagaggat agagaacaaa 60
atcaacaggc aagtaacatt tgcgaagaga agaaatgggc ttctcaagaa agcttatgag 120
ctctctgttc tctgtgatgc tgaggttgcg ctcatcattt tctccaaccg tggcaagctc 180
tatgaattct gcagcagttc tagcatgatg aaaacaattg agaagtacca gaagtgcagc 240
tatggttcac ttgagaccaa ctgctccatc aatgagatgc agaacagcta ccaggattat 300
ttgaagctaa aacaagagt ggaggtcctc caacgatctc agagaaacct ccttggggaa 360
gagttgggtc ccctaaactc gaaggagctg gagcaacttg agcaccagtt ggagaattct 420
ctgaagcaaa ttcggtctgc aaagacccaa ttcatgtttg atcaactggc tcatcttcag 480
cacaaggaac aaatgctggt tgaagctaac agagaattaa ggaagaagct ggaagagagc 540
aatacaagaa tccctctccg ccttggatgg gaagctgagg atcacaataa catttcatac 600
agccgccttc ccc 613

<210> 2020

<211> 564
<212> DNA
<213> Eucalyptus grandis

<400> 2020
atccccttgc cttgttcaac tctctctttc tccccctcct tctactgcga atatcatatc 60
cgaagctttg gcttcgacga cgaggctcac ggaaattaga gaaccatgag gaagccttgc 120
tgcgacaagc gggacaccaa caagggggcg tggtccaagc aagaggacca gaagctcatc 180
gattacattc aaaagcacgg cgagggtagc tggcgaactc ttcctcaagc cgccggtctg 240
ctccgttgcg gcaagagttg ccggctgaga tggataaact atctgaggcc ggacctcaag 300
agaggcaact tcgcagagga tgaggaagat ctcatcatca aacttcatgc actcctcggc 360
aaccggtggt cgcttatagc tggaaggttg ccgggacgta cagataacga agtcaagaac 420
tattggaatt ctcacctaag gaggaaactc ctaaagatgg ggattgaccc caacaatcac 480
cggttgaacc aaaatctccc tcgctctcaa acccggatgc ctcggcagca cttcctcatc 540
cagtatgaag accacatgac cctg 564

<210> 2021
<211> 410
<212> DNA
<213> Eucalyptus grandis

<400> 2021
tggaagctct gcagcaatct ctcgtggaca cactttcttc gaccacactg agtcctactg 60
gttcaggcaa cgtcgcagaa tacatgggcc aaatggctat tgcgatggga aagttggcca 120
ctctcgaaaa cttcgttcac caggctgacc tcttgagaca gcagacgctc caacagatgc 180
atcggatatt aaccacccgc caagcagccc gcgctcttct cgtcatcaat gactacatct 240
cacgtctccg agctctaagt tcattatggt tagctcgtcc taggactgaa aacatctgtt 300
ctgctaaact cttctgatgt aatcgatagt tttgattgaa attaacgttt ctagtgggga 360
tccatttact gcgactgtag cgattcgggc cacatttata taaaagctat 410

<210> 2022
<211> 328
<212> DNA
<213> Eucalyptus grandis

<400> 2022
cgacccgttg atgaagccct ggcagatccc atgtccgata caacccataa tagcgtccgc 60
agacctgttt gagtgctgat gtatcgattg ctgttgcaaa tgtggaacta gcgctttgga 120
ttttagtctc tttacctctg tgtttgatgt gaatattgtc cgatgtctct gatgttctta 180
cttcatcttg ttggcagtgg taaaatgtca gtttcgtgtc tgttgactgg attggctctc 240
tttttgtac aagggggtgt cgtttttcac cctcattagc ttgtgaaatt tgcatgatga 300
tgaatggttg taacaaacct atattagc 328

<210> 2023
<211> 380
<212> DNA
<213> Eucalyptus grandis

<400> 2023
ccaacaagtc atatatcctc gacttgctcc cagtggaacg ccttccatta cttaatcgct 60
gctagcgcta aaccccccctc actcttcacc agcaaaaacg ccttttctcg cacacaaatg 120
ggtcgtcgta aaattgaaat acagccaata acgcacgagc gaaaccgatc tgtcacattc 180
ctcaagcgca agaacgggct gttcaagaaa gcgtatgagc tcggtgtgct ctgctctgtc 240
gacgtcgctg ttatcatctt tgaggatcgc ccagggcaca gccccaagct ctaccagtac 300
tcgtctcgcg gtatccagga tattgtgcag aggcatcttc atcacgacgg cgagactgat 360
aaccgtggcc ctggggactt 380

<210> 2024
<211> 322
<212> DNA
<213> Eucalyptus grandis

<400> 2024
cgagacagaa ccttcttggt ggggcttgag aagcttggga agggtgattg gagaggcatc 60
tctaggagct atgtgaccac aagaacaccg gcccaggttg caagtcatgc tcagaaatat 120
ttcctccggc aagtgagctt caacaagaaa aagcggcgct cgagcctctt tgacatggta 180
aaaaatcagt gctcctataa actattacca tcatatcggc tatcatcaat tagtttgatg 240
gggtttgata aattcttatt gtataaggtt gatgtcaaaa ccgcggcggg tgatcgttta 300
ggcagtttga cggccaagcc ga 322

<210> 2025
<211> 387
<212> DNA
<213> Eucalyptus grandis

<400> 2025
gaaagaaggg agtagagaag gaggtgacat aaatttgcca cagaggcaac ggactttggg 60
agagatgaca ttggaggagt tcctagtgag agccggcgtt gtgagggagg acacacaaat 120
gatggcaagg cctggcgaca atggagttca tgaagaaatg tcacaattca ctagtaatgg 180
tctcgccagt agtgcggctg ctggaaacga tttcatattc tctagtaagc ctgctggttc 240
atcgttagat tttattggaa ctagacctac tcagctacag caacaaccac agccacagcc 300
gcttgaacca ccggctccgc tttttccaaa gccggaaact gtgtcatttg caacctccgt 360
gcatctacca aatacagctt catatag 387

<210> 2026
<211> 450
<212> DNA
<213> Eucalyptus grandis

<400> 2026
gcgaatgctc ctctccggat tgccatgaac tccaacgctt cctccaaccc ccagtcgatg 60
gccacctcca cgacgtcggc gaccacgccg gcggcgggcg gcgacggcgg caagaaggtc 120
aggaagccct acacgatcac caagtccagg gagagctgga ccgaggagga gcacgacaag 180
ttcctcgagg ccctccagct gtttgaccgc gattggaaga aaattgagga ttttgtgggc 240
tcaaagactg tcattcagat ccgaagccat gcccagaaat acttcttgaa agtccaaaag 300
aatggggcag ttgcacatgt tccacctcct cgtcctaaac gcaaagctgc tcatccctac 360
cctcaaaagg catcgaaaaa tgttttagtg ccgctgcaag catccatggc ccagccttct 420
tcaacaaatc ctgcttttac aattacacct 450

<210> 2027
<211> 786
<212> DNA
<213> Eucalyptus grandis

<400> 2027
ccaaacatcc atccgtccat cagctctaaa ctttaattgt aatcacatcg tcctttctcg 60
acaccaactg ggtcaaatgc ttaaaaaaag gaaaaggaaa agagaaagat gacgtttcct 120
tccttcctct ccaccaccgc tctcttctat ttatctcctc tctctctttc ttcctccatg 180
agcggtgctc ttcaggttgg atgcaccact tcaactcaac ctcaatacat aaacgtcgtg 240
ttgggaaaag gataaaggca gggagaagga gatggggagg tcaccgtgtt gcgagagcga 300
gcacatgaac aaaggggcat ggagcaagga ggaggacgag cgcctcatcg cctacatcaa 360
gcgccacggc gaaggctgct ggcgatccct tccaaaagca gccggcctgc tgcgctgcgg 420
caagagctgt cgcttgaggt ggatcaacta cttgaggcca gatttgaagc gtggtaactt 480
ctccgacgaa gaagacgagc tcattatcac cctccacagc ctcctcggca acaagtggtc 540

gctgatagcg gcacggttgc cgggaaggac agacaacgag attaagaact actggaacac 600
ccacatcaag agaaagcttc acgcacgcgg gatcgatccc caaacccacc gtcctcttcg 660
actacaccag cactgctggt gctggtgctg ctgccacttc acactatctg ttctaacgct 720
aacaacagcg gcaacaaggc cacgcctcac tcgacgactt gtgaagaatt atcatcatca 780
tcaaca 786

<210> 2028
<211> 476
<212> DNA
<213> Eucalyptus grandis

<400> 2028
agaagcgctg agttcttggt caaagtctag cagtttcggg ttctccatca atcgagtcgg 60
agtgggagaa aatgagcaca aatggtttgc tgaagtttga ccaaagtctt tagtgagatg 120
gttgctgtct cccgttctcc tccaaacaga tgtctgatca aataacttac ttgaccgcca 180
gtatgaactc tcctttagcc cagcttgtta acccaagaag gatgcacacc tacgagccat 240
ttgaccagtt ccccatgtgg ggagacacct tcaaagctga caaggtcaaa aatctcgagg 300
catcgtcatc tgtgatcgtg catgcagtag atgatggatt ggacaagaag tttgaatatg 360
tttctcatga atcggcagaa aattccagct ccaggagcga tcaagaagca aatagacctg 420
acaaggtaca gagacgtcta gcacagaacc gtgaagctgc tcgaaaaagc cgtctg 476

<210> 2029
<211> 535
<212> DNA
<213> Eucalyptus grandis

<400> 2029
cagccggatg taccttagtg tactgaatag cctaaagcca tgttcctatc agatgttaac 60
ttgcatatgg aaatgaatat tacaacatgc gcgctttctt gagttttttt tccctctgta 120
gttgcacgcg aagaagcgct gagttcttgg tcaaagtcta gcagtttccg ggtctccatc 180
aatcgagtcg gagtgggagg tatgaactct cctttagccc agcttgttaa cccaagaagg 240
atgcacacct acgagccatt tgaccagttc cccatgtggg gagacacctt caaagctgac 300
aaggttaaaa atcttgaggc atcgtcatct gtgattgtgc atgcagtaga tgatggattg 360
gacaagaagt ttgaatatgt ttctcatgaa tcggcagaaa attccagctc caggagcgat 420
caagaagcaa atagacctga caaggtacag agacgtctag cacagaaccg tgaagctgct 480
cgaaaaagcc gtctgcggaa gaagaaatat gtacaacaac tagaatcaag ccgct 535

<210> 2030
<211> 723
<212> DNA
<213> Eucalyptus grandis

<400> 2030
gtgaggcgct gcctccacca ccaccgccgt ccccaccgcc gccgccgcca ccaccaccac 60
caccaccacc accaccttat actgtacaaa taatcccttg gcctcggccg ttatagcctc 120
ttactcaaaa atcagttttt acccttttct gttgcgtagt cgtagttttg ggccaggggt 180
tctattcggt atatgtagag aagtcagtgg gcgaaaccga gcgtcgagcg gtcggccatg 240
gcttcctctt cttctgtagc ttccgcgagg aaggacgcgg atcggatcaa ggggccgtgg 300
agccccgagg aggacgaggc gctgcagagg ctggtccaga gctacggccc ccgcaactgg 360
tccctgatca gcaagtccat cccggggcgg tccggcaagt cgtgccggct ccggtggtgc 420
aaccagctct cgccccaggt ggagcaccgc cccttcaccc cggaggagga cgaggccatc 480
gtccgcgccc acgccaggtt cggcaacaag tgggccacca tcgctcgcct cctcaacggc 540
cgcaccgaca acgccgtcaa gaaccactgg aactccaccc tcaagcggaa gtgctcctcc 600
acgtgctcgg ccggcggcga cgacgccgac gccctcgcgg agcagcagcc gctcaagcgg 660
tcggccagcc tcgggacgcc cacgggcggc aacaacgccg tctccgatct gttcttcagc 720
ccg 723

<210> 2031
<211> 412
<212> DNA
<213> Eucalyptus grandis

<400> 2031
gctctctctc tctctctctc tctctctctc tctctctgtg gtggctttct tctgtttttg 60
gctgtgatca gacaaacaaa aaccatctgg ttcggcgtct gaacaagaaa aaatttgaga 120
agggattcaa ggaagatggc gaaagagaag ataaagataa agaagataga caacttgacg 180
gcgaggcagg tgacattctc gaagaggaga agagggctga tcaagaaggc cgaggagctc 240
tccgttctgt gtgatgctga cgtgtccctc atcgtcttct cagccactgg caagctctat 300
gatttctcca gctccaggca gatgaaggga gaggatctgg aggggttaaa cgtggaggaa 360
ttggaccaat tagagaagaa actcgaggcg ggactgagcc tcgtgatcaa ga 412

<210> 2032
<211> 495
<212> DNA
<213> Eucalyptus grandis

<400> 2032
gagttaccac cacccctttg ttttattttc gatcctgcat ctctcaaaat gaggaaacct 60
gatgcctctg ggaagaacag ctccaacagc aacgctaaca agctgagaaa aggactctgg 120
tcgcctgaag aggacgacaa gttgatgaac tacatgctca acaatggcca aggctgctgg 180
agcgatgtgg cccggaacgc cgggctgcag cggtgtggca agagttgccg cctccggtgg 240
atcaactact tgcggcccga cctcaagagg ggcgctttct ccccacaaga ggaggagctg 300
atcatccact tgcattccat ccttggcaac aggtggtcgc aaatcgcggc tcggttgccg 360
ggacggactg acaacgaaat aaagaacttt tggaactcga ccataaagaa gaggtcaaga 420
actcgtcatc atcttcttgt agacactcgg caaacacgag cgattctcct tgtcatcaga 480
cgttaaagat gtatg 495

<210> 2033
<211> 220
<212> DNA
<213> Eucalyptus grandis

<400> 2033
gcccccgaga tcgcgccgcc gctcgcggcc cctcgcggcg ggcaccaccg gcgggcgcac 60
tccgaggtca atttccggat cccggaggac ctggatctgg ggccggatcc gttcgagaac 120
gggccctccg ggagcttcga ggacttcgga tcggaggatg atctactcag cacctacatg 180
gacatcgaga aattcggatc aagctcgacg cgggcagggg 220

<210> 2034
<211> 445
<212> DNA
<213> Eucalyptus grandis

<400> 2034
cttctgagaa tgtgtccggt ggagccatcg aacgtcccag agccacggga aaattggctg 60
cgcctgtaaa ctcgcccagc atgtcctcat cattggacct gaagaattct tgcatggatg 120
caaatgccaa ccctgtgagc attttgcaac ctggtgtagt gccacctgaa gcctggttac 180
aggtaatgtc actctgtggt aggttactta aaatatttcc ctggaaggcc agtacttctg 240
ttctttctgc tgtttcttca agttgctctc tacaatatca tcgactttgt ttctcaaaat 300
tcgctttgtg taagaatgaa agagaactga aaagggagag gaggaaacag tcgaaccgtg 360
aatctgctag aagatcaaga ctgaggaagc aggctgagac tgaagaactt ggcaaaaagg 420
tggattctct gagtgccgag aatag 445

<210> 2035

<211> 349
<212> DNA
<213> Eucalyptus grandis

<400> 2035
ttttttttt gtatataatc tctttatttc tagttaggga aaattcagaa agaagccgtg 60
aaggaacttc atccaatggc gatggaaaat ctgaagtgca aggaaaggtt gctggggagg 120
tggatgctgc ttctgagaat gtgtccggtg gagccatcga acgtcccaga gccacaggaa 180
aattggctgc gcctgtaaac tcgcccagca tggcctcatc attggacctg aagaattctt 240
gcatggatgc aaatgccaac cctgtgagca ttttgcaacc tggtgtagtg ccacctgaag 300
cctggttaca gaatgaaaga gaactgaaaa gggagaggag ggaacagtc 349

<210> 2036
<211> 648
<212> DNA
<213> Eucalyptus grandis

<400> 2036
gagagagaga aagccagaga gagaaagagg aggattttgg atgaacgtat attcattggg 60
aggtgctagt catggggagg caaccgtgct gtgacaaatc cggggtgaag aaaggaccgt 120
ggacggcgga ggaggacaag aagctcatca acttcatcct caccaacggc cactgctgct 180
ggcgtgccgt ccctaagctt gccggcctcc gccgctgcgg caagagctgc cgcctccgct 240
ggaccaacta cctccgcccc gacctcaaac gcggcctcct cagtgaggct gaggagcagc 300
tcgtcatcga cctccatgcc cgcctcggca acaggtggtc gaagatcgcg gcaaggttgc 360
ccgggagaac cgacaacgaa ataaagaacc attggaacac ccacatcaag aagaagctgc 420
tcaagatggg gatcgatccc gtgacccacg agcccttgaa caagcctcag aaaactccat 480
ccgaacacga cccggaagct tctctgtcgt catcgcaagc ggaccctacg tccgaatcgc 540
ccgccaacac gcaccaaccc aacaacgccc acgcggacga agtacaactc gtcctcgtcc 600
tccccgtcgg cctgtccgcc gagaactgtt gctccggcag ggacgagt 648

<210> 2037
<211> 268
<212> DNA
<213> Pinus radiata

<400> 2037
ctgagcagaa atatggatga cgtatttgtt cagcgctgca acagaaactt tacagctcga 60
gatcggctaa tctctaaaga gagaaggaat ttcgggtggg tttgtggcgt tactgaagag 120
gaagaagaac ttattatcag aatgtataag ctcgtgggca acaggtggtc attgattgct 180
gggcgccttc ctggtcgaaa agctgaagag attgagagat attggaagat gagaagcata 240
aatgctgcac ctctgaagcc taatacct 268

<210> 2038
<211> 1055
<212> DNA
<213> Pinus radiata

<400> 2038
ggcgaatcga gctccagtct ctgcccttag gcacacgtac aacatacgtg gctaacagag 60
ataacaccca aagcctatcc agccatggtc gatggatggt tggacagtga tacaggcagg 120
agagggttca gctggaccac agttttggat agaatggttg cttttgcctc ctcggctctt 180
actaatcttc tgactttggc agtatgtctt ccgtgatata tttaatgtgt atacgttctt 240
ttggggattg cgagacagca gatccaagtc tgggctgtgg atctggaacg cattttaagc 300
tctggtctct tcaattgggt ttctggtagc gagctccatc acaatggtca aagaattgtt 360
gatgatgtgt tccaactgtg ggcacagtgg gcacagctcc agagcctgtc ctgatagagg 420
atctgtcaaa ttgtttgggg tcaggctcat tgctacagac gatggcatgg cctgcatgag 480
aaagagcctc agtatgggca atctcggtca ttaccgttca ctttacaatg tcaatcactg 540

ttctgggaca agcgaatgtg gatctgcaga tcaggatggg tatttgtctg atggatttgt 600
tcattcttcc agcaatgcac gcgagaggaa aaaaggcgtc ccatggtcgg aggaagagca 660
caggatgttc ttgtatggac tggaaaagct tgggaagggt gactggagag ggatatccag 720
gaattttgtg acgaccagaa cacccacaca agtagccagc catgcccaga agtattttct 780
aaggcagagc aatcttaata aaaggaaacg tcgatccagt ctctttgata tgtgtcctca 840
tgattcccat gtcacaagct cttttcgcag agaagactca ttgggaaacc tttatgaatt 900
ttcgccaaaa cattcggctt tgggggtatc gcctaatttc gaactatatt catttggtgt 960
ttctccaact ttatctctag gaagatccct gcaaccagtg gaagcagttc ttgaagagaa 1020
agcagcccat tatcatcctg tgaactcaga agaag 1055

<210> 2039
<211> 167
<212> DNA
<213> Pinus radiata

<400> 2039
tggttacagc tctgtagcgg aatagatgaa catgcagctg gattctgttc tcaacttgtg 60
tttgcaccaa ttgatgcatc ttttgctgat gatgctcctc tggctccctc tggtttccga 120
gtaattcctc tagaatcggg atcagaatgt ttctcctcca aaacgga 167

<210> 2040
<211> 357
<212> DNA
<213> Pinus radiata

<400> 2040
ggagtgttga aattcccctg ttttgatctg ataactatga atctgatgga gtcttttgag 60
gcaaagggaa agggagagaa gaggagaacg gtgagggggа aaacccagtt gaagagaatt 120
gagaacggga ccagcaggca ggttactttt tgtaagcgca ggaatggtct gctgaagaaa 180
gcgtacgagc tgtcagtgct ttgtgatgcc gaagtggcac ttattgtttt ctccccaaga 240
gggaagctgt atgagttcgc taatcccagc atgcagaaaa tgttggaacg atacgaaaaa 300
tgttcagaag gaagtaaccc gacgagtaca gcaaaagagc aagacgtcca gtgttta 357

<210> 2041
<211> 438
<212> DNA
<213> Pinus radiata

<400> 2041
ccgaagcaag atcagaaact cgttacttac atacaggagc atggccatgg cagctggagg 60
gctctgccgc agaaagctgg gttgctgaga tgcgggaaaa gctgcagatt gcgttgggct 120
aactatctaa ggccagatat caagcggggg aagttcactg tgcaggaaga gcagactatt 180
attcaacttc atgcactact tggaaacagg tggtccgcca ttgctactca ccttcccaag 240
cgaaccgaca acgaaatcaa aaactactgg aatacccacc tgaagaagcg cttgctgcag 300
atgggaatcg accccgtgac gcacaagccc aagtccgaat cgattatggt acctggtgtt 360
cagtcgtcca atgggtcctc gaatctgagc catatggcgc agtgggagag cgcgcgcctg 420
gaagccgaat cgaaggct 438

<210> 2042
<211> 319
<212> DNA
<213> Pinus radiata

<400> 2042
ggaattttca ttggaggaag ttgtgttggt ggggatcaaa gtcattcaat gagtggaaat 60
ggagccctag catttgatat ggagtatgct cgttggttgg atgagcatca tcgacagata 120
aatgaactga ggtcagcagt gaactcacat gtgggggaca atgagctgcg tggtctggtt 180

gaaggtgtca tgggacatta cgatgaaatt tttcgtctga agactgtagc ttcaaaagct 240
gatgtctttc atctggtctc tggcatgtgg aagacgcctg cagaaagatg cttcatgtgg 300
atgggaggat tccgtcctt 319

<210> 2043
<211> 404
<212> DNA
<213> Pinus radiata

<400> 2043
aaccggagag caagaacaaa gtggaaacgc aacgaagtgg agtgcgataa tctgaaacgg 60
tgttgcgaga gtctgaggga ggagaacaga agattggaga aagaagtgca gtcgctgaga 120
gccatgaaag tcccgcagtc acccaattcg atgcctctgg cagccgccac cctcgcaatg 180
tgtccggcct gcgagggcct tgcaatcaag aaccgcggcg ccgccacttc ctccaccgcg 240
aagtcacaac aatccctcct tacaattatg ggattgggg atgtaaatat gatatccaaa 300
aataaccaaa ccccttcaat gggaatggga gatgaaatga attgaagaaa gtgaacttaa 360
aaaaaaaaaa aaaaaaactc gagactagtt ctctctctct cttc 404

<210> 2044
<211> 379
<212> DNA
<213> Pinus radiata

<400> 2044
ctggaacctg atagaagaga agattgaagg aagatcagga aagagctgca ggcttcggtg 60
gtttaatcag ttggacccaa gaatcaaccg aaggcctttc actgaagaag atgaggagaa 120
gctactggca gcccatcgtt tatatgggaa taaatgggcc atgattgctc gcttatttcc 180
tgggagaact gataacgctg tgaagaacca ctggcatgtt atcatggcca ggagatacag 240
agagcaatcc agtgcttttg ggagaaggaa attgcctcaa gttcatagaa gagagaaacg 300
tgcctgcact gatgatgaaa cgaggatggg cagcagcagc tgcaacatgt gggtggataa 360
atatagctct ctcaaatct 379

<210> 2045
<211> 369
<212> DNA
<213> Pinus radiata

<400> 2045
ctcattgctt acattcgagc caacggcgaa ggcagctggc gttcccttcc caaggctgca 60
gggctgccga gatgcggaaa gagctgtagg ctaagatgga taaactacct gcgtcccgat 120
ctcaagcgtg gaagcttcac agaagaagaa gacgaactca tcatcaaact ccactccgtc 180
gtcggcaaca agtggtctct tattgcagga agattgccgg ggcggacgga caacgagata 240
aagaactact ggaacactca catcaagaga aaattgctga tcaagggaat cgacccccag 300
tcccatcgtc ctctcgggca gccctacagc agcaacaata tgcccgtctc tcggctattt 360
ctgacctcg 369

<210> 2046
<211> 530
<212> DNA
<213> Pinus radiata

<400> 2046
ctttccaata ttgagcccaa gcaaatcaaa gtttggtttc agaatcgaag gtgccgagag 60
aagcagagga aggaagcctc gaggcttcag actgttaaca ggaagctgac ggcaatgaac 120
aagttgctca tggaggagaa cgatcgcctt cagaagcaag tttcacagtt ggtgtatgag 180
aatggttaca tgagacagca gctacagaat gcatctgtgg ccgccacaga cacaagctgt 240
gagtctgtgg tgactagtgg tcagcaccaa cataatccaa cacctcagca tcccccaaga 300

gatgctagcc ccgctggact cctgtctata gcagaggaga ccttgacaga gttcctttca 360
aaggctaaag gagctgctgt cgattgggtc cagatgcctg ggatgaagcc tggtccggat 420
tcgattggta ttgtagctat ttcaaatact tgtaatggag tagctgcacg tgcttgcggt 480
cttgtaggat tagatcctac aaaggttgca gagatcctta aagatcgccc 530

<210> 2047
<211> 358
<212> DNA
<213> Pinus radiata

<400> 2047
gctctaccag tgtcaagcct tgtttgaaaa tggcgcagtc gaaaaactct caagaaccta 60
taatgatcta tatgatgatt taaaagaaga aatactgtcg tggctgccag tggaatgtgt 120
gtgcagattt cgcagcgtct caaagcagtg gaataatctc ctgtcatcac acaatttcat 180
aaaaaaggta tggagaaaga agcctgctaa catgaaccca tggctcgttc tgcatcctgt 240
caactcctcc tattgtttgg catactgctt cttcacaaga acctggaaga ctacctcctc 300
tatctccatt gaaaatgcca ataattatgg agaaaacgga atcttgggga tcagctgc 358

<210> 2048
<211> 376
<212> DNA
<213> Pinus radiata

<400> 2048
aagacaagaa gctcattaat ttcctgacta ctcatggcca atgctgctgg cgcaccgttc 60
cagagcttgc cgggatttca agatgcggaa agagttgcag gctgagatgg acgaattatc 120
ttcgccccga tttgaaacga ggagtcttct cagagtccga ggagaaactt attttagatc 180
ttcattcgcg tgttggtaac agatggtcga agattgcctc gtttctgcct gggcgaaccg 240
ataacgagct aaagaactac tggaacaccc acatcaagaa gaagctgaag cgcatgggac 300
tcgaccccgg cgacgcacag gctatttcag aaacactacc acagccagcc cctgtagctg 360
agaataatga tgtccc 376

<210> 2049
<211> 656
<212> DNA
<213> Pinus radiata

<400> 2049
caaacaatca tcacgagatg aaattccctt cagaatggga tttctgagat tcgatccttg 60
atctgttgct gcgatctgat cacattttat tggggggttta gggtttaagt tttctctgct 120
aatggcatcg atgaaaggaa aatctccggg tcacgatgag cccgatcgga tcaaggggcc 180
ttggagcccc gaggaggacg cagcgctgca gcatttcgtt cagaaatacg ggccacgcaa 240
ctggtcactg atcagcaaag cgattcccgg ccgatctggc aagtcctgca ggcttcgatg 300
gtgcaaccag ctgagccccc aagtcgagca ccgccccttc actcctgaag aggacgccac 360
tatcgtgaga gcccacgccc agcacggcaa caaatgggcc acgattgcgc gcatgctcag 420
cggcagaacc gacaacgcta tcaagaacca ctggaactcc actctcagga ggcgttgcca 480
aggtgggggc gccctcgtca tcgacgacga gatctccagc ggcgccgacg ggtttcgaaa 540
acggaacctc agcgaagacg ccgatgccag ccggaaattc aagaagctca gcctcgggac 600
gacgacaacg accacgacca cggagcctag cacctcctcg gcctcggatc ggagcg 656

<210> 2050
<211> 466
<212> DNA
<213> Pinus radiata

<400> 2050
atggggaaga cgaagatgga gatgaaacac attcaaaacc ctagccgccg ccaagttact 60

```
ttctcgaaac gcaagaacgg attgctaaaa aaggcattcg agctttctgt tctctgcgat      120
gctgaagtcg cccttatcat tttctcggaa actggcaaga tcagcgagtt tgcaagccac      180
aacgacatgg caacaatact ggaaaaatat cgcatataca cgcaaacaga aacagatgga      240
aacatggggg cttcgtcggt ccaaagcgtg aagggatggt ttcctaattt tctcgagatt      300
gcgggattca gtgtttgtgg atgatcccta ttattgcagt gtgggttggg gcacgagggg      360
tgcagttgac tcgactcata tgattggaag gttggtgaat cacaattgaa agcgttgcac      420
gagaggatgg acaatttgaa aaaacaggaa cgaaacatgg ttggtg                     466
```

<210> 2051
<211> 390
<212> DNA
<213> Pinus radiata

<400> 2051

```
gtttgaagta gaatttacct atcaattgcg ttaaagatac tctgttttcg gccctgaacc       60
ctaccagggg aacgcggcgc catgtcttcg aggagctgtt cgttgtgcgg ccttaatggc      120
cacaattccc gtacctgtgt gggaagtggt gtgatgctct ttggggttcg tctgacggat      180
ggaccaatga gaaagagtgc tagtatgaat aatttgtcaa acttatctca atatgagcac      240
tcggatccgg ctgaggttgc cgctgaaggt tttgatggtt acgtctcgga tgacctcgtt      300
cattcatcca gcaatgcccg tgagaggaag aggggagtgc cctggacaga ggaagaacac      360
cggatgtttc ttgtcggcct tcagagagtc                                       390
```

<210> 2052
<211> 312
<212> DNA
<213> Pinus radiata

<400> 2052

```
gtttgaaggg gaacgcggcg ccatgtcttc gaggagctgt tcgttgtgcg gccttaatgg       60
ccacaattcc cgtacctgtg tgggaagtgg tgtgatgctc tttggggttc gtctgacgga      120
tggaccaatg agaaagagtg ctagtatgaa taatttgtca aacttatctc aatatgagca      180
ctcggatccg gctgaggttg ccgctgaagg ttttgatggt tacgtctcgg atgacctcgt      240
tcattcatcc agcaatgccc gtgagaggaa gaggggagtg ccctggacag aggaagaaca      300
ccggatgttt ct                                                          312
```

<210> 2053
<211> 393
<212> DNA
<213> Pinus radiata

<400> 2053

```
cgaggtcgag tccagctgag gaggatcgaa aacaaaatca gtcgtcaagt aacttttttct      60
aagagacgga acggactgat gaaaaaggcg gcggagctgt caatactgtg cgacgctgaa      120
gtggccttaa tcgtcttctc caacaaagac aaactgtacg agttcgccag ttccagtatg      180
accaagattt tggaaagata tcggaagcgt tcaaatttaa tacaagatat cggtaaagat      240
ccacagaatt cagacattga gttgacgcgt ctaaaagaag aggttgaccg cttacaaaga      300
tccagaaggc atcttttggg tgaagacctt catcaactag gtgctacgga tctgcaacac      360
ttagaacaac agcttgaaga agcgttacaa aag                                   393
```

<210> 2054
<211> 210
<212> DNA
<213> Pinus radiata

<400> 2054

```
cacagttctg gaacctgtta aagagaaatc agtcgaggtc aaactccttc tgtttgcacg       60
aggatgccca gcattatgga gaagcaaaat agtggtgaag atagtgatag caagggtcag      120
```

cttgataatg gcaagtatgt ccgttacacc aatgagcagg tggagacttt agaacgtgct 180
tataatgaat gctcaaagcc cagcacaagg 210

<210> 2055
<211> 385
<212> DNA
<213> Pinus radiata

<400> 2055
aaaattgaga atactacaag ccggcaggtt acattctgta agcggaagaa tgggttgctg 60
aaaaaagctt atgagttatc tctgctgtgc gatgcagaag tggctctcct cattttctcc 120
accagtggga gactctatga atttgcgaat aagagtgtta gcgcgacaac ggagcggtac 180
atgagaacct atgcagagaa catgcctcag tctcgagctc tgtatccgga ttgtcaccat 240
tggcaagagg aagtcagaaa acttacacag caacgtgata gtctaaccaa ttcgatcaga 300
caaataatgg gtgaaggcct tgaatcatta agcatgaagg agctcaagca tattcaagtt 360
caattggaaa aaagtattag ttgtg 385

<210> 2056
<211> 545
<212> DNA
<213> Pinus radiata

<400> 2056
tgaagacctt gatgattgta tccatccacc ggagaagaag agaaggctga ctgctgacca 60
agtgcagttc ctggaacgaa gctttgagat cgaaaacaag ttggaacctg agcgcaagat 120
acagctagcc aaggagttgg gcctccaacc taggcaagtt gcagtctggt ttcaaaaccg 180
gcgggcaagg tggaaaacaa agcagttgga aagggattat gatattctga aatcacgcta 240
tgagaatttg agagttgatt atgatagcct gctcaaagaa aaggataaat taagggctga 300
ggttaccttc ctaacagaca agctacacga cagtgaccat gaagccctca caaaggattc 360
tgagtctgct gacaagaaag tctatcccca gcctgcctcc cactctgact gtgttgggga 420
gcctgaaaga agtactgctg ccaaggatac accaccaggt tgtaaacacg aagatcttct 480
gagctctgga acagatagca gtggggtcct ggatgaagat agtcctcacc atgttgactg 540
tggtc 545

<210> 2057
<211> 385
<212> DNA
<213> Pinus radiata

<400> 2057
aaacttgctc acggattccg acccttccgg ctaaagctgc tgcatttctg tgtgtattga 60
agatggggag atctccctgc tgtgaaaaag ctcatacaaa caaaggggcg tggaccaaag 120
aagaggacga tcgcctcatc gcccacattc gaactcacgg cgaaggttgc tggcgctcgc 180
ttcccaaggc cgcagggctg atgcgctgcg ggaagagctg caggctccga tggataaact 240
acctgcgtcc tgatctgaag cgtggaaact tctcagaaga agaagacgaa ctcgtcatca 300
aactccactc cctactcggc aacaagtggt ctcttattgc aggcagattg cccgggcgga 360
cggacaacga gataaagaac tactg 385

<210> 2058
<211> 436
<212> DNA
<213> Pinus radiata

<400> 2058
aaagaagggt gttccctgga ctgaagaaga gcacaggcag tttttgatgg gccttcgcaa 60
gtacggcaaa ggcgactgga gaagtatttc tagaaacttt gttgtgtcaa ggacaccaac 120
ccaagttgcc agccatgctc aaaagtacta cattcggctt ggttcggata ataaaaacaa 180

gagaagatcc agcatacatg atatcaccac tgttcatggt acagacagga tgccttctcc 240
tttactgcac gtttctaata ggcagactaa ttccccctca acacaggcag aaatgaatca 300
ttcaccatgt ctggacatat ccatctcaga tttcacgagg acctctaata aactctttgg 360
gacctcaaat agatggtaac cttctatttt cacctcacta tcctctaaat ctgtataccc 420
agagagggtt tggggg 436

<210> 2059
<211> 624
<212> DNA
<213> Pinus radiata

<400> 2059
tttttattca aatgacagca cgacttccct tcctcagatg tttcccaggc tgcactcatc 60
agctgcagca ccacgcggtt ttggattctc cctgttcttt gttctgttgc gttaaagatt 120
ggttgcaggt cgaatcgccc aggccgattt gaattctcct gaggattgac aagatgacgc 180
gcaagtgctc gcactgtggc aacaacgggc ataactccag gacgtgccct aaccgcggcg 240
gggtgaagct cttcggcgtt cggcttaccg atggcccgat cagaaagagc gctagtatgg 300
ggaatttgat gatgatgtcc aaccctagct ctcccgctga cccctccgag ccggcctctg 360
ccgctgctgc tgccgcggcg gcggcggcca gtggctatct ctctgatggt cttgttgaag 420
cctccacttc ctccaattct cgcgagcgga agaaaggtgt gccatggaca gaggaggaac 480
atagaatgtt tttgctaggt ttgcagaagc ttggcaaagg tgattggaga ggaatagcac 540
ggaattttgt cataacacga acacctacac aggtagccag ccatgcacag aaatatttta 600
ttcgacagag caatatgact agaa 624

<210> 2060
<211> 364
<212> DNA
<213> Pinus radiata

<400> 2060
atcgaggaaa accagaatct tctcattttc acttgctgtg ggtttctctg gactaacgat 60
gaagatgtct ctaccttcta atgttctcac tctcagtgcg gattccaatt ctaattccaa 120
ttcgatctcc tcgtcaggag acgaactcgc cgcaaaggtg aggaagccat acacaatcac 180
aaagcagaga gagaggtgga gtgaagatga gcatcttaag tttctggaag ccctgaaaat 240
gtatggccga gcatggaggc gaatcgaaga gcacataggc acgaaaacag ctgtccagat 300
acgaagccat gctcagaagt tcttctccaa gttggtaagg ggatcttcaa ataaaggtgt 360
gtct 364

<210> 2061
<211> 258
<212> DNA
<213> Pinus radiata

<400> 2061
gagggataga catgaatcgg ggtccggcta ccaatgagtc tgagtattcg tcggttttcc 60
aggccgatgc cttgcggacg attgacactg gttccgtggt agtgaagcga gagcgagaaa 120
gaacctttga gttggaggcg gagagggatc gaacctgcga cgtgagttcc aggacaagcg 180
acgaggagga gataggttcg acgaggaaaa agcttcggct ttccaaggag cagtctgcac 240
tcctggagga aagtttct 258

<210> 2062
<211> 347
<212> DNA
<213> Pinus radiata

<400> 2062
aacttggagt cactcacgtt gaaagaattg caacaactgg aaaagcaatt aggcagggct 60

ataaaaaaga tttataataa aaagatgaaa ataatttcac aatgttgcaa atcattatca 120
gaaaaggtac gctctttgga agaggagaat agtgaacttc ttaccaagtt gattcctaga 180
gccgattcct ccacttctgg ggctgcgtta tttgttgata catccatgcc aaaatctcac 240
tcagcaaccg aagcatggcg acaactcctc cagcgagtcc ttgtgacagc agcgaagatg 300
gcgacaactc ctccagcgag gcacagtaat tcccgaccga accacta 347

<210> 2063
<211> 267
<212> DNA
<213> Pinus radiata

<400> 2063
tggcaaggca acatcgggat ctgcaaatga ggccatgtca caaagtgggg acagtggcag 60
tgacggttca agcgaaggaa gcgaggaata taacactcaa actgagtcac aagtggcgag 120
aaagagaagt tttgatcaaa tgatagtaga tggagccaat gctcagagta ccaatattca 180
atcatataat tcccaggctg gagaacccta tgtgacttcc ggcgggcatg caatgggtaa 240
tcccattagt caagctgttg ctgcagt 267

<210> 2064
<211> 336
<212> DNA
<213> Pinus radiata

<400> 2064
tcaacttaaa tggaaggaac ggatcttaac cgaagagaac ctttttcttc gtaaaaagtg 60
tggtgatgaa catgtggatt gttcggcttt tagaacacct ccagcacaac ttagaagcat 120
ccagaacatt gatgtggaga ctcaactggt tataagacct ccaactgtac aacagcaccc 180
tgacgtcgat agtcctcgat aactgttgca tatgcaaatt ttctactttc atgaaataaa 240
caaacagtac acctcatttt gttcgccttt tgtaaacgta taattactac tgcatatgta 300
agctttcctc tcaaaaaaaa aaaaaaaaaa aaaaac 336

<210> 2065
<211> 573
<212> DNA
<213> Pinus radiata

<400> 2065
cgcagatcgg gactgcaaac agaaccatag ttctgcaaca ttcaatggga cggactcctt 60
gttgtctgaa agtgggactc aatcgaggtc cctggacacc cgaggaggat ctttgcctct 120
caaattacat cgaagctcac ggagaaggcg ggtggagaac acttccaaag aaagcaggtc 180
tgctccgatg cgggaagagt tgcagattgc gttggatgaa ttatctccga cccgatgtga 240
aacacgggca catattaccc gaggaggaag atttaatact caggttgcat cgtcttcttg 300
gaaacaggtg gtctttgatc gctggacgta tgcccggcag aacggataat gaggtcaaga 360
actattggaa tacccacctc agcaaaaagc ttatcagtca gggtatcgac ccgcggacgc 420
acaaaccgtt gtcagaatcc gaagacatat gttcgagtcc cgggaatagc gaagtgagcc 480
gcaagtctca acgggaaaat aacgctgaaa taccaagaaa agttgccgat ggcgcagttg 540
atattcaaga taaggaagag gatatcacag aag 573

<210> 2066
<211> 407
<212> DNA
<213> Pinus radiata

<400> 2066
atttaactgg gattgcaagc tgcttgtgtt gtttctgtgc ttcaagcgaa gggaagggaa 60
gacattccta gagaagaaaa aaatcaatat caatggggag ggggaagatt gaaataaaaa 120
tgattgaaaa tacagcaaac aggcaagtca cattctctaa gagaaaagga ggacttctta 180

agaaagctca cgagctctcc gttttatgca atgcagaaat tgctctcatc gtttttttcca 240
acactggcaa actccatgat tggtcaagct ccagcatgaa aaaagttatg gagaagtacc 300
agaaatcgga tcaaggacta ggacttatgg actaccaaca acaacagctg ttgtgtgaaa 360
tgaaacgaat caccaaagaa aatgaaagcc ttcgagctcg tttaagg 407

<210> 2067
<211> 407
<212> DNA
<213> Pinus radiata

<400> 2067
atgctttgtg gccggttcaa atatttgagc tggcttagct tctctggttc agaaatggcg 60
gactaaagta atagtgtgcc ccgaggtctg gtgttcgaat ctcgttggcg tgaaaggtca 120
aatttttctc tcgagtttca ttgattctga aaaactggca tagctatggc gatgagcaat 180
gggagattgt gtgaagattt ggataggatt aaggggccgt ggagccccga ggaggacgcg 240
tcgctgcaga ggcttgttca gaaatacggg ccgaggaact ggaccctgat aagtaaagga 300
atcccggggc gatccgggaa atcgtgcagg ctacggtggt gcaatcagct gagccctcag 360
gtggagcaca gacctttac cccgtccgag gatgctgcta ttctgca 407

<210> 2068
<211> 353
<212> DNA
<213> Pinus radiata

<400> 2068
atttttctg tagatggtgt gaggacgtgc tgaatagttc ctaaatcgtt tcttccgcgt 60
ttggtcatcg aacgagttcc tataactcgc caagaccagg ttcttcacgg actactaatt 120
ttgggcttct acacatcttt cccggaagta gatggggcgg gcactaggaa gaacagaaat 180
aaagaggata gaaaatgaag tgagcaggaa tgtgagtttt agaaagagac gacgtggatt 240
gctgaagaag gctgcggagt tgtcaatact ttgcgatgca acagtgggcg ttgttgtttt 300
ctctccggcc gggaaacttt ctgaatatgc cagcacttcg gagcaaatgg ata 353

<210> 2069
<211> 393
<212> DNA
<213> Pinus radiata

<400> 2069
attcgaaacc ctaccaatcg gcactcatcc ttctacaaac gcaagggcgg tttgcttaaa 60
aaagcatttg aacttgctgt tctctgtgat gctgaagttg ctctgataat cttctctgaa 120
accggcagga tttacgagtt tgcaagccac gatgatgtga ccacagtatt ggcaaaatac 180
cgaatacaaa cgaaaactgc cggaaacgca atgccttcat cgcttcaaaa aacagagttt 240
gatcaattac aagtcaggat gttgcaggag aagatagaca atttggagaa aacgaaaaag 300
catatggtcg gtgacaattt ggagtcactg acgtggaagg aattgcaaca agtcgaaaag 360
aaattaagca aggctacaaa aataattgtg gcc 393

<210> 2070
<211> 461
<212> DNA
<213> Pinus radiata

<400> 2070
cagcctgtgg ctcctgaaag catcgtccct cctcatcagc cgccgcacaa ccaaacgccg 60
aaccaataca tgcaaggatg gtgggtttga tatttaacat ttatcattat cagttacttc 120
aatcacaaca aaagcccaaa gcgtggtaaa ttacgaaatt agaattatat tatcattaaa 180
aaaaaaccct attttcattg tatagcagta ggcttgattt actgctatga tagcggaggt 240
tttattgggc aaacaaaccc tactggtata ttagaccttc ttgtcgacaa agtttaattg 300

cataaatctt gtatgctaat ctggccgcta aaagagcgat ggaaaaatag ttgtcccatt 360
cacaacacat gatatgttta aatccaacgt gtatgtgtct gcaaaatatt attatacact 420
acggtttatc acatggtagt cgattcgcca taaaaaaaaa a 461

<210> 2071
<211> 373
<212> DNA
<213> Pinus radiata

<400> 2071
ggattccgac ccttccggct aaagctgctt catttctgtg tgtattgaag atggggagat 60
ctccctgctg tgaaaaagct catacaaaca aaggggcgtg gaccaaagaa gaggacgatc 120
gcctcatcgc ccacattcga actcacggcg aaggttgctg gcgctcgctt cccaaggccg 180
cagggctgat gcgctgcggg aagagctgca ggctccgatg gataaactac ctgcgtcctg 240
atctgaagcg tggaaacttc tcagaagaag aagacgaact catcatcaaa ctccactccc 300
tactcggcaa caagtggtct cttattgcag gcagattgcc cgggcggacg gacaacgaga 360
taaagaacta ctg 373

<210> 2072
<211> 506
<212> DNA
<213> Pinus radiata

<400> 2072
ggactgcaga ggaagacaga aaactggtga attttatcac cctgcatggc catggatgct 60
ggcgcgaagt acccaaactt gctggtctgc ttagatgtgg caagagttgt agattgcgtt 120
ggacaaatta cttgcgccca gatttgaagc gtggattatt gtctgaatca gaggagaagc 180
tcatcattga tctacatgct gccataggga ataggtggtc acgaatcgct gcgcaattgc 240
cagggagaac tgataacgag atcaagaatt actggaacac gaggatcaag aagaaactgc 300
gccagatggg aatcgatcct gtgactcaca agcctctcac ccaaatgcaa atgcagagca 360
cccctgccca gactctgctg ctgcaagaaa atgatacaga gcagcagcag caggagcaac 420
ataatgagcc tgatcctgat cagaatcaga gcagcaatgg cactgtggag acattggtct 480
cgagggccag agaaccccac gaccac 506

<210> 2073
<211> 494
<212> DNA
<213> Pinus radiata

<400> 2073
attcagatgg aacaacaaca atgtctacat atgaaagaaa agccagtctt cgagaattct 60
atgctgttat atatccttcc ttgctgcaac ttgaaggagg tataacagag atggaagata 120
ataagcagaa actgatttgc aaagaaagat acaagaaacg tgttgatgaa gaaaggagac 180
atctttctga gcttgatctg gaacgtgaaa aagagtgtgg aatatgtatg gagactcaga 240
ccaaagttgt attgcctaac tgcagtcatg caatgtgttt gaattgctat cgggaatggc 300
atgcacgatc agaatcatgc cctttctgca gggatagctt gaaaagagtg aactcaacag 360
acttgtggat ttttacaagt aatgaagaag ttgttgacat ggaaacattg ggcagagaga 420
acttaaaaag gctatttaat tacattgata aattgccact tatagtgcca gagagcctgt 480
tttatgttta tgat 494

<210> 2074
<211> 1678
<212> DNA
<213> Eucalyptus grandis

<400> 2074
ctttttcttc cctgtcctgt ttctctgtgc tcacatcttt taatatcaca ccgaggctgg 60

aattctgcca ggagccgcct ctggtgctgg ctgacatttc acctagaagt cacaaaaact 120
ttgtagttac cattttcgga aagattttga ggaaacacgc gcagagggag agagagagag 180
tggaagagag agaatctagt ctctggatgg ggaggcattc ttgctgttac aagcagaagc 240
tcagaaaagg cttatggtca cctgaagagg atgagaagct tctgaggcat atctctcagt 300
atggccatgg ttgttggagc tctgtcccaa agcaagccgg tctacagaga tgcggcaaga 360
gctgcagatt gaggtggatt aattacttga ggcccgattt gaaaagaggg gcgttctcgc 420
aagatgaaga ggacctcatt attgagctcc acgctgctct tgggaacaag tggtcgcaga 480
ttgcagcaaa cttgcctggc agaactgaca atgagataaa gaacctgtgg aattcttgcc 540
tgaagaaaaa gctcaggcag agaggcattg accctgtgag ccacaggcct ctctctgagg 600
ttgagaatag tgacgacaag gacgcaacgt cagggcagac ccaagataag gtctctcgtg 660
ggtcagttga attgctgagc cagctcaatc cacaattctc aagctccacg acagcaagga 720
gcagtaaaaa cagcaatttg atggcaccaa cattgagcaa ggacacagtt gcagatgggt 780
ttgtgagcaa tcaccaagag aactcgatga tgaacagttg catctcagac tttgttgata 840
atttctctct gcaacaattg aactactcat caagtgattc cagattttct aatctctgtt 900
tcacccaaac gggcagagca catggaaaca ccatcttttc cgacttcaat tcgaatgtaa 960
tatctgccat ttctcctccc tcatctaact ctttattccc tactgcttca atgggcttca 1020
acttcaagcc atctaatgct gtcccctcgg cgaattcgac ttcaagcgct agcacaggaa 1080
ctgcagattt tcacaacagt ggctcctact tcgggaacag cttagtttcc tggggattgt 1140
tagcagattg tggctcgcca gacaaggagg ggtcgacttc gatccatcca ttggaagttc 1200
accaacccgg agacttcaag tgggctgccg aatatctcca gaaccctctg ttcatggcgg 1260
ccgcgctgca gaaccaagcc caggaacagt ccaatttgta caatcagata aagccagaga 1320
cccagtttcc tccagaccat tcaactactt ccatgtggga tcatctacag ggacatgaat 1380
ccttggacaa ttctttgaat acgtgcggca aggatatcca gagattaacg gcgctactcg 1440
gacacaatta gatagaggat tatattagct gatggagcct cagctgttga agcaggaggg 1500
gatcatttga ttggtggcga cttgagaatt tgcagattgt tatttgttac aggtgtggac 1560
tataattttt tttttttacc ccttttcctc tttcaatgta catagttctg atacaaaaca 1620
tctgcatccc cttgcctttt acctatattt gctttaagaa aaaaaaaaaa aaaaaaa 1678

<210> 2075
<211> 636
<212> DNA
<213> Eucalyptus grandis

<400> 2075
aaacagagag agagagagat catgagatac ccagctccag ctccagcttc aaggggcaag 60
agcacgagca cggcaacgcc atgctgcagc aaggtgggga taaagagagg cccgtggacg 120
ccggaggaag acgaggtcct cgccagctac gtgaggaggg aaggcgaggg gcggtggcgg 180
accctcccga agcgtgctgg cctccagcgc tgcggcaaga gctgccgcct ccgctggatg 240
aactacctcc gcccctccgt caagagaggc cagatcgctc ccgatgagga ggacctcatc 300
ctccgcctcc accgcctcct tggaaacagg tggtctttga tagctggaag aatcccgggc 360
cgcaccgaca acgagatcaa gaactactgg aacacccacc tcagcaaaaa gctcatcagc 420
caaggaattg atccccggac tcacaagcca ttattgaacc ataaccctag ttcttcacta 480
gcagcccatt tgcaagatac ttataatgct tcaacattca caccgaaagc aacttaccct 540
aatcctacag taccagtgga agaaaccggc gacgaaaatg atctgaaagt gggcagacag 600
ccagctgggt cagcctcaaa acgcgggcgt tgccaa 636

<210> 2076
<211> 862
<212> DNA
<213> Eucalyptus grandis

<400> 2076
caaacgtctc cgtttctctc caagctgaac atggacaaga agccagacga cgacagtggt 60
aagtcccaag atgtcgaggt gagaaaaggg ccgtggacga tggaagagga tctcatcctc 120
atcaactaca tagcgaatca cggcgaaggc agttggaact ccctagccaa agctgctggt 180
ctaaaacgta ccgggaagag ttgtcggctc cggtggctga actatctgcg acccgacgtc 240
cggagaggca acatcactac tgaggagcag ctcctgatca tggaactgca tgccaagtgg 300

ggaaacaggt ggtctaaaat tgcaaagcat cttcccggaa ggactgacaa tgagataaag 360
aacttctgga ggactagaat ccaaaagcac atcaagcaag cagaggcttt ctctggtcag 420
agctccgaga tgagtgatca agcaagcaca agccacatgt ccagcatgcc agagccgatg 480
gagacctacg actcaccgcc gtcattccaa ggcaacaaca acatggagcc tttgccggtg 540
aatttgtcgg tcgagtcaaa tgaagcctac tggagcatgg acgatctttg gtctatgcag 600
ttactcaatg gggattgatc gcggggtgac gtatggtgca gtaatcgaaa tggttcgttt 660
acaataatag ctaggtttgt ttacataaaa tggacattag cttttatctc acatatatat 720
ctacatacat gtgctagttt agaagttatc tacaaatatg tgcatgagtt gtaaacgaaa 780
ctaccatctg cagtttgcat ccccgctatg taatgactga aataatgaag cgagattatt 840
tggcttaaaa aaaaaaaaaa aa 862

<210> 2077
<211> 907
<212> DNA
<213> Eucalyptus grandis

<400> 2077
gagatggaca agaaaccgtg ctaccgcacg caggatcctc aagtgagaaa aggaccatgg 60
actcttgaag aggatctgat tctgatggac tacatagcca accatggcga aggtgtatgg 120
aactctctag ctaaagctgc tggtcttcaa cgcaccggaa agagctgccg gctgcgatgg 180
ttgaattacc tccgacccga tgtccggaga ggtaatatca ctcccgaaga acagctcttg 240
atcatacacc tgcaatccat gtggggaaac aggtggtccg aaatcgcgaa gcatttgccg 300
gggaggaccg acaatgaaat aaagaactac tggaggacca agatccaaaa gcacataatc 360
aagcaatcgg aaactgagat caacgatctc actattcctc catcatccgc aaacgcatgc 420
acagatcatc gcggggtctc ggccgcaaat acaatcgaga tcgcctgttc tccaccgtcg 480
gatcaaggcg gctccggcga gactatgctc tcggcccttc ctcctgccca agaaccgaac 540
gacagcgctt gctggagcgt ggaggatctc tggcccatac agtcactaat tagcggcatg 600
ggtgatgatg cccaatacta ttccgtttag gccttaatta gattatagat catgacctga 660
tgaacaaaac aaaagcaatt agaagaccca aagggctcat ttattgggtc tttatgttga 720
agctagctag gtagatcttg tatgtataga gaaaaggcca cagcatatca tatttcctat 780
gtgatgtgct gtatacacta ccatagcttt gtgctaggta tattagctag cttgtagcag 840
tggcaacata tctatcgaaa taagaactta gataatacag cttttggtta aaaaaaaaaa 900
aaaaaaa 907

<210> 2078
<211> 658
<212> DNA
<213> Eucalyptus grandis

<400> 2078
gggagacgtc tccagctcga gtcgtcatct gggtccgcgt cttctcttcc cttcttccaa 60
tggtttgatc ctaggacaga gagagaaaga gagagatata ccgaaagaga ggtacagaga 120
gatagaggga gagggagagg gagactcgtg gcgctgtttc gagctttcta gcttccggag 180
gaggagggct ggtgttgagc gaaacttgga gaggtcatga attcgacaac cactcagttt 240
gtgtcctcta gaaggatggg gatgtatgac ccgattcacc aaattggaat gtgggacgag 300
aacttcaagc agaatggaaa tcctaatgcg ccgccagctc tgatcatacc tatgcacgcg 360
aatttggaca accagtcgga ggatacttct catggatcac aggatactgc tggcaagtat 420
gagcaagaaa catcgaaacc ttatgataag gtgcaaagac gtcttgccca aaaccgtgag 480
gctgcgcgca aaagccgtct gcggaaaaag gcttatgttc agcagctaga agcaagtcgt 540
ttgaagctta tgcagttaga acaagaggtt gaccgagcta ggcaacaggg tgtgtacatg 600
gcttcaggag tagattcagc ttatccagga tatggtggat gtttaaattc aggaatcg 658

<210> 2079
<211> 373
<212> DNA
<213> Eucalyptus grandis

<400> 2079
gctcacttgg gtcgcctctc gttctctcgt ttctcgcctc cttcttcgaa gcagcagcca 60
gcacagtcgc gcaacgtgaa gaagataaaa agaagagtgt ggtcctgacg ggaggggggc 120
gtctctctag aaagactacg ttttttcctt tcgttaagaa atgagacagg ggtctttcta 180
gcttctgggt cttgaggagg agggccattt tcttcttgcc gattcgatag gttggcagcc 240
cgggatgatg gcggtgactt cggcctgtaa ggacaagatg gggatcgaca acgggaagta 300
tgtgcggtac acgcccgagc aggtcgaagc tctcgagagg ctgtatcacg agtgcccgaa 360
gccgagttca ctg 373

<210> 2080
<211> 421
<212> DNA
<213> Pinus radiata

<400> 2080
gttccagacc ttttgcatct tcattattct tccgcctgtg aaaagatggg gagatctccg 60
tgctgtgaga aggctcatac taacaaaggg gcctggacta aacaagaaga cgaccgcctt 120
atcgctcaca ttcgagccca cggcgaaggg ggctggcgtt cgcttcccaa ggccgcaggt 180
tgcttgcctg cgctctgctt tcttaactga attaatggct gcctgtaaat tttccgttta 240
aatataatgt ttcttgatgt ccgatataac gtttcttgat tttccgatat aatgtttctt 300
gattttccga tataatgatt ttcgattttc cgtttatata taatgtttct tgattttccg 360
attgcagggc tgctgagatg cggcaagagc tgcagactgc gatggataaa ctacctgcgt 420
c 421

<210> 2081
<211> 746
<212> DNA
<213> Pinus radiata

<400> 2081
gtttaattcg acgacacctt tgcctgttag aaaggcgcgg gaggcttatc ggaagccaca 60
ccaaaccaaa tcagaaataa tgggtagggc tccctgctgc gaaaaggttg ggctcaaaaa 120
gggcccctgg acgcccgaag aagatcagaa actcgttact tacatacagg agcatggcca 180
tggcagctgg agggctctgc cgcagaaagc tggtgattat gaatttatat ttagttctag 240
aacttgcaag aaattctctg tatttttgtt ttttgggtag ttttcatggg ttgagtttta 300
tgcagggttg ctgagatgcg ggaaaagctg cagattgcgt tgggctaact atctaaggcc 360
agatatcaag cgggggaagt tcactgtgca ggaagagcag actattattc aacttcatgc 420
actacttgga aacaggtggt ccgccattgc tactcacctt cccaagcgaa ccgacaacga 480
aatcaaaaac tactggaata cccacctgaa gaagcgcttg ctgcagatgg gaatcgaccc 540
cgtgacgcac aagcccaagt ccgaatcgat tatggtacct ggtgttcagt cgtccaatgg 600
gtcctcgaat ctgagccata tggcgcagtg ggagagcgcg cgcctggaag ccgaatcgag 660
gctggcgcgc gagtccaagc tcagggcaag gggcctctgg tctgcccagt tgagaaacgt 720
taatgcgagc tcggatttat tcagcc 746

<210> 2082
<211> 244
<212> DNA
<213> Pinus radiata

<400> 2082
gaagatatca agcaaatagt tacacaccaa gaaaatccac aatgggtaga tctccttgct 60
gcgcaaagga agggctcaac cgcggggcct ggacgaaaac ggaggatatt attctctccg 120
aatacattcg aattcatggc gatggtgggt ggagaagtct ccccaaaaaa gcagggctta 180
agcggtgtgg aaagagttgt agattacgtt ggttaaacta tcttcgtccc gacattaaac 240
gcgg 244

<210> 2083

<211> 1151
<212> DNA
<213> Pinus radiata

<400> 2083
cttcaacagg tttttgttct gaaatcctgt tatcacttcg ctccatcttc catttttgtt 60
ttctgacaac cttttaaaca tgggaagggc gccttgctgc tctaacgatg acagaaacaa 120
aggagcctgg accaaagaag aggatgacag gcttatccaa tatattaagg ttcatggaga 180
gggttgctgg cgctctctcc ccaaggccgc aggtctgctt cggtgtggca aaagttgcag 240
actgagatgg ataaattatc ttcgccctga tctcaaacga gggtttttct ccgaagacga 300
agatgatctt attctcaaac tgcacgccct ccttggaaat aacaggtggt ctttgatagc 360
tggccgtttg ccaggacgaa cagataacga gataaagaac tactggaact cgcatctgaa 420
gcgaaaactt atcagcatgg gaatagaccc cctaacccat cgtccttttc aaaagacttc 480
tcaccatcat ccctctcctc cacagaatgt tagagaggct gaaacaacac cttccattgg 540
gattgttcaa gatttctttc gttgcccgtc tgaacttagc accaaatccg agcaaatttc 600
agatgctgca agcggactcg cgcaggatga gcaaccccac ccgaacctga acctgaacct 660
ggagctctca atagctcgct cctcagtcca tcgagtagca gagaaggagg acgttgttaa 720
ttcccagcaa ggcgaaagca atctgagtga gggaaagtga tatttatgtc attatggaga 780
ctgccctccc cctccaatgc aacaatgaga tgatataaat gtccctttcc cgctcaccaa 840
agccctacgg ggcaataacg aatacatgaa aaccgtttgg ctcatagcaa gtctagtttt 900
caacacttac tattatttaa ggaacgtaaa aagtgtccag ttcaattgat gtattttgtg 960
acattttgct ttgttagtca cttacacatg ctacaagttt tgttggtcag tcacctcaca 1020
cttttggtgt gaaaaatggc ttcaaggctt cctttgtatg gataccagtt gcattggcaa 1080
tatgtaaaaa tgcgacatgt aatgttttct aatggcaaag tatatatttt aaaaaaaaaa 1140
aaaaaaaaaa a 1151

<210> 2084
<211> 372
<212> DNA
<213> Pinus radiata

<400> 2084
tttttgttct gcaatcctgt tatcacttcg ctccatcttc catttttgtt ttctgacaac 60
cttttaaaca tgggaagggc gccttgctgc tctaacggtg acagaaacaa aggagcctgg 120
accaaagaag aggatgacag gcttatccaa tatattaagg ttcatggaga gggttgctgg 180
cgctctctcc ccaatgccgc aggtctgctt cggtgtggca aaagttgcag actgagatgg 240
ataaattatc tttgccctga tctcaaacga gggtttttct ccgaagacga agatgatctt 300
attctcaaac tgcacgccct ccttggaaat aagtggtctt tgatagctgg ccgtttgcca 360
ggacgaacag at 372

<210> 2085
<211> 1285
<212> DNA
<213> Pinus radiata

<400> 2085
gggctgagag aaaagtattt tccttgggct gaagagatca ggctaattat ggggcggaca 60
ccttgttgtg aaaaaaatat tgggctgaag aaggggccat ggacacctga ggaggatcaa 120
aagctgatag attacataca aagccatggc catggtagct ggcgtgccct tcctaaacga 180
gcagggctct tgagatgtgg aaaaagttgc aggctgagat ggaccaacta tttaagacct 240
gatataaaac gtggacagtt ttcatttgag gaagagcaga ctataattga actccatgct 300
gttcttggaa acaagtggtc tactatagct gggcatctgc ctgggaggac tgacaatgaa 360
ataaaaaatt actggaacac ccatttgaag aaacgccttc ttcagatggg aattgatcct 420
gtgacacaca ggccaagaac agacctcttg gctttttcca atatccaatc ttcaattttt 480
aatacacctg gttttggtca tatggcccaa tgggagagcg ccagacttga agcagaagct 540
cggctgacgg gagagtattt gagacaagcc ttattcatgg caggcaacgg atcagccaca 600
gctgatctat tgatgaggcc gtgcaaatcc gaatttggca atgatcagtt taatttgaca 660

```
aaaaatatgg gcaacccacc atggatacag cagcctggaa tggccttaga ctataagggt     720
gccgtacctc agagtttgga gcagttttta cagacaaatg tatgttctgc atcagacatt     780
aatgggggtg gttgtttgag ccatgaaggt ggcttcaata ttacgaagtt tgcatctcca     840
tgttcaactc tggatggaat tcaaatcaaa acagaacctc agagtctgtg tggtcctcaa     900
gtagtgaaaa atgatagtca gtttcttcat agtgaaggag atctacgaaa acaagccatg     960
cttgatatga atgtaggatg taatgttctc attaacatga atgctgaatc caaggtttca    1020
tttggtcaca atggtattat aactgaccaa gaatacaata atttgggtca aatagataat    1080
aataaccatc tttctcatgc agctactaca ctatggcctg ttgaaggcca gttgcaggcc    1140
atagccagtg cctccatgcc tggattgata tcttccacca gctgcacttc aaacaacatt    1200
tacagccagc ctggtttaat tcctcttctc aattccacaa cctcttcaat gggtgataca    1260
aattcttaca gagaagcgca gccag                                          1285
```

<210> 2086
<211> 1218
<212> DNA
<213> Pinus radiata

<400> 2086

```
cgcagatcgg gactgcaaac agaaccatag ttctgcaaca ttcaatggga cggactcctt      60
gttgtctgaa agtgggactc aatcgaggtc cctggacacc cgaggaggat ctttgcctct     120
caaattacat cgaagctcac ggagaaggcg ggtggagaac acttccaaag aaagcaggtc     180
tgctccgatg cgggaagagt tgcagattgc gttggatgaa ttatctccga cccgatgtga     240
aacacgggca catattaccc gaggaggaag atttaatact caggttgcat cgtcttcttg     300
gaaacaggtg gtctttgatc gctggacgta tgcccggcag aacggataat gaggtcaaga     360
actattggaa tacccacctc agcaaaaagc ttatcagtca gggtatcgac ccgcggacgc     420
acaaaccgtt gtcagaatcc gaagacatat gttcgagtcc cgggaatagc gaagtgagcc     480
gcaagtctca acgggaaaat aacgctgaaa taccaagaaa agttgccgat ggcgcagttg     540
atattcaaga taaggaagag gatatcacag aagatcagac atctgctcaa ttgcctgaga     600
atcagcttct tgaaacaagc aattctcaat gcccgtctgt cgctactgat ttcgtgcctc     660
aggctccctc gataccttcc acggcttatt catttcaaca gagcacaact tcaagtgttc     720
ccggaggcgt gtcggattca gttgatgtta atcataataa gggaagtaag caagttcctt     780
ttcctctctc aaatactgca tgttttaata gttcggcaca aggggtagct ggtgactatc     840
tcgaccaata tttgatgaag aatcttgtta ctaacagcaa tgatctgata acatccactg     900
tgagattaag ctccgcttta caaactgcac cttttgtggg acaattcgat tcaaatcatg     960
tttttatgtc aggcaatgca tcgctcaatg aaaaacatca gatgcctcag aactcacaag    1020
ctttggaaat ggatccccac cattctttca tagcgcatcc ttctgaggag ggcacctatg    1080
ataaattgaa ccatacaagg tgtgcagctt ctgatcaggt cacatcattc aattatccat    1140
atcttatttc tcataccgtt acgggctcag cccttgggga ttttaatccg gatatctttc    1200
ctccttttgt ggaatctt                                                  1218
```

<210> 2087
<211> 473
<212> DNA
<213> Pinus radiata

<400> 2087

```
gacctttgc atcttcatta ttcttccgcc tgtgaaaaga tggggagatc tccgtgctgt      60
gagaaggctc atactaacaa aggggcctgg actaaacaag aagacgaccg ccttatcgct     120
cacattcgag cccacggcga aggggctgg cgttcgcttc ccaaggccgc agggctgctg     180
agatgcggca agagctgcag actgcgatgg ataaactacc tgcgtcccga tctgaagcgt     240
ggaagcttca ccgaagaaga agacgagctc atcatcaaac tccactcctt cgttggcaac     300
aagtggtctt taattgcagg gagattgccc ggacggacgg acaacgagat aaagaactac     360
tggaacacac acatcaaaag aaaattgctg agcaagggac tcgaccccca aacccatcgt     420
ccactcggcc agccaaacaa tacccccgtc actcggcctg ttctcgagca cga            473
```

<210> 2088
<211> 1150

<212> DNA
<213> Pinus radiata

<400> 2088
aaacttgctc acggattccg acccttccgg ctaaagctgc tgcatttctg tgtgtattga 60
agatggggag atctccctgc tgtgaaaaag ctcatacaaa caaaggggcg tggaccaaag 120
aagaggacga tcgcctcatc gcccacattc gaactcacgg cgaaggttgc tggcgctcgc 180
ttcccaaggc cgcagggctg atgcgctgcg ggaagagctg caggctccga tggataaact 240
acctgcgtcc tgatctgaag cgtggaaact tctcagaaga agaagacgaa ctcgtcatca 300
aactccactc cctactcggc aacaagtggt ctcttattgc aggcagattg cccgggcgga 360
cggacaacga gataaagaac tactggaata ctcacatcaa gagaaaattg ctaaacaggg 420
gactcgaccc ccagtcccat cgccccctcg gccagccgca caacagcaac acgacctgcc 480
cctctctgcc cgccctcgag cacgaaattc ttgtgttcca gaggccaaga acgccggaga 540
tagcagattt ctttcaatac gagcgctctg aaagctcgcc gatggaaccg gccacttcta 600
aagacgcgga agagcatccc gacctcaatc ttgatttgtg tatcagcttg ccagttcatt 660
cgcccccgc cacgagcaga gcttcgagcg tcgatggaac cgtggattca aaacctaatt 720
cggtttcttg tcacatgggg ttgcaagtaa attatggtgt gcaatgtgag aacagatatt 780
gtgaagagag tgcttccggt gtctcgagtt tttacacgct cgtcttatag aagatttgag 840
ctttatggtt tgcttattaa caccactaag cattcatctg atgaataggc agagtgaaac 900
tatatgtttg ctcattgtgg cagcccggag tttgcagtta atagacaggg acgcagctgg 960
acagcagtta cccaaattat tgtttaaaga gtgtagatag ctcacctatg aacataggaa 1020
tcgctgtttc accatggcgc tctgtaatat ttaaagcgat tcatatggaa gcttgagcgc 1080
gaagtctcca gtgccgtatc atcaactaat gtaattgaac tgcaattggt cacaaaaaaa 1140
aaaaaaaaaa 1150

<210> 2089
<211> 723
<212> DNA
<213> Pinus radiata

<400> 2089
gtttgtcttc cccttcattc gcaattgctt gcttggtgtg ctgagagggg aggaggacga 60
ggaggaggaa acagagcaac aagcagcccg acagacacac atctcaacag gtggatcttt 120
ctcgcccgcc attctatcag gtgtattatt gtgcaacata tagctgaaat atggtttggg 180
ggatcttgta gtaggagcat acgatcaatt ttaggaacca aggctcattt taactatggg 240
tacaggagag atggggacac cagcgaaaac aactaaggca tccacaccac aggaacagcc 300
tccaacaagc actgccatgc tttatcctga ctgggctgca gcattccagg cttattataa 360
ctctggaacc acaccaccac ctcctcctgc gtactttcat tcaagcgttg catctagtcc 420
acagcctcat ccatatatgt ggggggggca gcctctaatg cctccatatg gaactcttcc 480
tcccccatat gcggcaatgt atcatcatgg cagcatgtat gctcatccat ccatgcctcc 540
gggtgcacat ccatttgctc cttatgtgat gacatcgtcg ttaagtacaa ctgaaggtgc 600
acctgtaggc acaacttctg gtgcagatgc agaaggaaag ccatctgaac caaaggacca 660
aactctattg aagaggtcca aaggaagctt aggcagtctt aatatgctta ctggcaagat 720
tac 723

<210> 2090
<211> 768
<212> DNA
<213> Pinus radiata

<400> 2090
gtttgactga aggtttagag ttcgattccc acaggtaaca gaggccacga aggtttcaag 60
ttcgattccc acaggtcaca gaggccacga aggtttcaag ttcgattccc acagttcaca 120
gagccaacga aggtttcaag ttcgattcca ctaggtccag gaggagcaaa gaagatcgtt 180
gggctcaatg gggtgcaacc agtcgaaagt cgagagcgag gaagaggtgg tgaagtcaaa 240
ggagaggaaa caatttatga aggagtcagt ggcggcccgg aatgctttcg ccgccgctca 300
ttcggcgtcc ataacgtcgc tcaagaacat tggggccgcg ttgaacgact acgggcaggg 360

cgagtcaaag gaatccctga gccaggggca tctccccgtc ccccacatat atggcgatcc 420
actgcctccc gcgcctcccc tgcctccgct actccctcct ccgcgcccag atgagcaccc 480
cgctcgcccc ctggagcgct ctgccagtgc accggccatc gccttacagc aacaggcgga 540
ggaagacaga aaccctgaag caaatgctgg tgcttccatt ccagaaggag aagaagacga 600
agtagaggag gaggaggacg agcatctggt ggaggtgtct cactcggtta cttcttttaa 660
tccacctccg cgtccgcctc cttcatccag cgaaccccca ccgcctccgc tgcctccgct 720
gacgaatcag tgggacttct ttgacgacaa cagctacttc gagcggca 768

<210> 2091
<211> 479
<212> DNA
<213> Pinus radiata

<400> 2091
aaaatttaac agaaacattg caagctgctt gtttaatttc tgtgcttcaa gggaaaggag 60
aggaagagat tcccagagga gaagatcaag ataaatgggg agggggaaga ttgaaataaa 120
aatgattgag aacgcaacaa acaggcaagt caccttctct aagagaagag ggggacttaa 180
aaagaaagct caggagctct ccgtcttatg caatgcagaa gttgctctca tcatttttc 240
cagcaccggc aaactccatg agtggtcaag ctcgagctca ttctttatgt tacaaaaaag 300
catgaagaaa attctcgaga gataccagaa atcagagcag ggactaggac tcatggatta 360
tcaacatcaa cagctgttgt gtgaaatgag acgaatcacc aaagaaaatg aaagccttca 420
agagcgttta aggcatatga atggcgagga agtcaattca ttgaagctcc cagagcttt 479

<210> 2092
<211> 557
<212> DNA
<213> Pinus radiata

<400> 2092
gaaagaagga aagaatgggg cgagggcgcg tcgagctgaa gcggatcgag aataagatta 60
accgtcaggt cacgttttcg aaacgccgga atggtctgct gaaaaaggcg tatgaacttt 120
cagtgttatg tgatgcagag gtagcactga taatattctc aagcagagga aaactctatg 180
agttcggaag cgccgggatg ctcaagactc tggagcgata tcaaaaatgt tcatacgtat 240
tgcaagacgc gactgtatcg gaccgggagg cgcagaattg gcatcaagag gttggcaaat 300
taaaagccag agttgaactt ttacaacgat cacaaaggca cttattaggt gaagacctgg 360
gccccttgag tattaaggag ctgcaacaac tggaacgtca acttgaggtt gcactgacac 420
atgttaggtc aagaaagact caagtcatgt tggaaatgat ggatgaacta cgcagaaagg 480
agcgaatttt acaagaagta aacaaatctc tgcgcaagaa gttgcaggag gccgagggac 540
aggcattcaa tgccatg 557

<210> 2093
<211> 356
<212> DNA
<213> Pinus radiata

<400> 2093
agtattgaaa ttcccctgtt ttgatctgat agctatggat ctgatggagt cttttgaggc 60
aaaggggaag ggagagaaga ggagaacggt gaggggaaaa acccagttga agaggattga 120
gaacgggacc agcaggcagg ttactttttg taagcgcagg aacggtctgc tgaagaaagc 180
ttacgagctc tcggtgcttt gtgatgccga agtggcactt attgttttct ctccaagagg 240
gaagcgctat gagttcgcta atcccagcat gcagaaaatg ttggcacggt acgaaaattt 300
ttcagaagga agtaaagcaa cgagtacagc aaaagagcaa gatgtccagg gtttaa 356

<210> 2094
<211> 404
<212> DNA
<213> Pinus radiata

<400> 2094
gggcaagggg aaagacacag atgagaaaga tcgagagcgc gaccagcagg caggttacgt 60
tttctaagcg cagaaatgga ttgatgaaga aagcttacga gctgtcggtg ctctgcgatg 120
cccaactggg actgattgtt ttctccccca gagggaaggt ctatgaattc tccagtacct 180
gcatgcagaa aatgttggca cgatacgaaa aatgttcaga aggaagtgac acgagtacat 240
caaaagagca agatgtccag tgtttaaaac gagaaagtgc gaatatggaa gaaaggattg 300
aaattcttga atccatgcaa agaaagatgt tgggcgagga gctggcatca tgtgcattga 360
aggatttgaa tcagttggag agccaggttg aacgaggttt gaga 404

<210> 2095
<211> 584
<212> DNA
<213> Pinus radiata

<400> 2095
tcgcagcgta aagcgttcat gggtgccggg cgggtaactc ttgaaaaata ttagattcga 60
ctccctgacc ctgggaggag gaagaagaag aagaacagca ggaggaagcg aaaatttctt 120
aatagtaacc agagaatagc agcgggtgaa gaagcagagg gatcttgcaa tggggcgggg 180
tcgggttcag ctgaggcgaa tagaaaacaa aataaatcga caagtcacgt tttcgaagcg 240
ccggaacgga ctgctgaaga aggcgtacga gctatcagtg ctgtgcgatg ccgaagtggc 300
gctaataatt ttctctacca gaggaaagct ttacgagttt gccagttcca gcatgaacaa 360
gacgttggaa agatacgaaa aatgttcata tgcaatgcaa gataccacag gcgtttcgga 420
ccgggaagca cagaattggc accaagaagt tacaaagttg aagggtaagg ttgagctcct 480
gcagcgatca caaaggcatt tgttggggga agatctgggt ccgttaaatg ttaaggagct 540
acagcagctt gaacgtcagc tggaggttgc tctgacacat ctta 584

<210> 2096
<211> 453
<212> DNA
<213> Pinus radiata

<400> 2096
ctcttgtctg ttctcgaaat cggccaaaat gggaaagaag agggtggagc tgaaacgcat 60
tcaaaaccct agcagtcgac atgctacttt ctctaaacgc aagaatggat tgctaaaaaa 120
ggcgttcgag ctttctgtcc tctgtgatgc tgaagtcgct ctcatcattt tctctgaaac 180
tggcaagatt tacgaatttg cgagcaataa cgatatggca gcaattctgg gaaaataccg 240
agtacacgaa gaaggcactg aaacgtccag tccaacatcg cttcaaaacg taaagtatca 300
tgaatcaggg cttgagaaat tgcaagagaa gttgaccgct ttgcaaaaga aggaaaagaa 360
cttgattggt gaagacttgg aggtattaac aatgaaagaa ctgcaacggc ttgaaaaaca 420
gttacaaatt ggcataaaaa ggttagtgat aga 453

<210> 2097
<211> 509
<212> DNA
<213> Pinus radiata

<400> 2097
gcaaccggag ctttaagact agaatatata tgtagccctc gggctctgac gaatactgaa 60
actagagata cccacctctt atctggtgtg taaggcacgc aaaatgggaa agaagaaggt 120
ggaggtgaaa ctcattcaaa accctaccag tcgccaagga tgtttctaca accgcaagtg 180
cggtttgctt aaaaaagcgt ttgagctttc tgttctctgt gatgctgaag ttgcccttat 240
aatcttctcc caaaccggca agatttacga gtttgcaagc catgacgacg tcaacgcaat 300
tctcgcaaaa taccggatac aaacgggaac aacaacaaac gcgatgcctt cctcgcttca 360
aaacaccgag ccggagacgt tgcatgagga gacaaatatg ttgggaaaaa ggaaaaaagt 420
ggagaagttg catgagaaga tcaatatgtt ggaaaaaaga ggaaaaaaca tggttggtga 480
aaatttggag tcattaacgg tcaatgaat 509

<210> 2098
<211> 430
<212> DNA
<213> Pinus radiata

<400> 2098
gtttgttgcg gttctccgtt ccgcgggtct gattgattaa ttaaagagca agagtgacga 60
aaggagtctg gagaatggca agaggaaaga cccagatgaa gaagattgag aacgtgacca 120
gcagacaggt cacgttttct aagcgaagaa atgggttgct gaagaaggct ttcgagctct 180
cggtgctgtg cgatgcagaa gtgggactta ttgtattctc cccaagtggg aagctctatg 240
aattttcgcg tccctgtatg ggaaaattgt tggagaagta tgaaaagaat tcacgagaaa 300
gtggtataaa taatgcggct aaagagaaag atactcagca ttcaaaacgc gaaattgcaa 360
atatggaaga gaaaattagg atcctcgaat caacagaaag aaagatgttg ggcaaaatc 420
tagcatcatg 430

<210> 2099
<211> 513
<212> DNA
<213> Pinus radiata

<400> 2099
tttcaatgcc cctcttttc cagtggacga gtgttcaatt ttccctgtgt tgatctgata 60
cctataaatc tgatggattc ttttgaggca aagggaaagg gagagaagag gagaacggtg 120
aggggaaaaa cccagatgaa gaggattgag aacgcgacca gcaggcaggt tacttttct 180
aaacgtagga acggtctcct gaagaaagct tacgagctct cggtgctttg tgatgccgaa 240
gtggcactta tggttttctc cccaagaggg aagctctatg agttcgccaa tcccagcatg 300
cagaaaatgt tggaacgata cgagaagtgt tcggaaggaa gtaaaacaac aagtatagca 360
aaagaggaag atcccaaggc tttaaaacga gaaattgcga atatggaaga aaggattgag 420
attcttgaac gcacgcaaag aaagatgttg ggcgaggaac tggcatcatg tgcattgaag 480
gatttaaatc agttggagag ccaggttgaa cga 513

<210> 2100
<211> 526
<212> DNA
<213> Pinus radiata

<400> 2100
ggattcttgt atttttgtgt gttgctgctg caacagttct taaataccaa gacattgatg 60
agagcttgag taatatttct gcaaaaaccc aagtaaaccc tgaagctagt ccaaactagt 120
ggaaggaacc tcggctattc tgtaagttca ctcagatttt gagaaactct tgggattttg 180
ctcaaaatgg ggcgtggtaa aatagagatc aagaagatcg agaacagcgt gcacaggcag 240
gtgaccttct gcaagcgccg aggcggtctg atgaagaaag cctacgagct ttcagtgctg 300
tgcgatgcag atgtagcgct cattgttttc tcgagccgag gaaagttgta cgagctgggc 360
accagcaaca acaacaacaa cagtatgagg tcaatattgg aaagatatca aaagtgttca 420
cagacggcaa aacatatgaa cttttcgaat aatacttcag acgagaaaat gaagcaagaa 480
ataaatttac ttaaacaaca aattggatca gctaaactta ctaaca 526

<210> 2101
<211> 295
<212> DNA
<213> Pinus radiata

<400> 2101
cctcttggaa ggcaaatcct tgtactgttc catcctcacg aattggaggt tttggaggtg 60
gccaggtcat cctcccatta gcccatactg tggaacatga agagtttttg gaggttatca 120
agttggagaa tcatggcctg acacaggaag aagctttgct atcgagggat atgtttctgt 180

tgcagctttg tagtgggctc gatgaaaatg cagttggggc ctgtgctgaa cttgtctttg 240
ctccaattga tgcatcctta gctgacagtt ctcctttgct cccttctggt ttcag 295

<210> 2102
<211> 296
<212> DNA
<213> Pinus radiata

<400> 2102
ggagaatcat ggcctgacac aggaagaagc tttgctatcg agggatatgt ttctgttgca 60
ggtatcgtat cgacgtgttt ctattgctta gcagagaaac ttgaagtgta aaattttaat 120
ttttactaat tcatttgaat tgatgatctt gccatttga ttggacagct ttgtagtggg 180
ctcgatgaaa atgcagttgg ggcctgtgct gaacttgtct ttgctccaat tgatgcatcc 240
ttagctgaca gttctccttt gctcccttct ggtttcagag tcattccttt agactc 296

<210> 2103
<211> 475
<212> DNA
<213> Pinus radiata

<400> 2103
gaagtgtgga tgttcttact gctttctcaa ctggaaatgg aggaacaatt gagcttttat 60
acatgcagat gtatgcgcca actactttag cttctgcccg agatttctgg actcttagat 120
acacttctgt attggaagat ggtagtcttg tggtttgcga gagatccttg agtggaactc 180
agggaggtcc cagcatgccc gcggtgcagc agtttgttag agcagaaatg caacccagtg 240
gatatttgat tcggccatgc gaaggtggag gttctctaat tcatattgtt gaccatatgg 300
atttggagcc atggagtgtt cctgaagtgc tacgtccact gtatgaatca tccactgtac 360
ttgcccaaaa ggttacaatg tcggccttac gccatttgcg tcaaatagca caagaggcat 420
cttctgatgt ggtccttggc tggggaagac aacccgctgc attacggaca tttag 475

<210> 2104
<211> 1612
<212> DNA
<213> Eucalyptus grandis

<400> 2104
cccatctccc ttcaaaaaac gacgccggcg acgacgacga ccccccacca ccaccaccac 60
catcgacgac tcggcacagc acgcgaacca gtcgcggaaa gttcgagaag gaattcgacg 120
ctcgggaatc ggccgggaga agaggaggaa gacgacgaat cggagcctta tggtgtccgt 180
gaacccgaac ccggcgcaag ggttttactt cttcgatccc gcgaacacga ggatccacgg 240
tgtcaacgcc ggctcggcgg ccgagggcgg cggcgccgcg ccgccgtacg cggaggaccc 300
gagcaagaag gtgcggaagc cgtacaccat caccaagtcc agggagagct ggaccgagca 360
ggagcacgac aagttcctgg aggcgcttca cctgtttgat cgtgattgga agaagattga 420
agcttttgtt ggatcaaaaa cagttattca gattcgtagc catgcacaaa agtactttct 480
aaaggttcag aagaatggga caagtgaaca tgtaccacca ccacggccaa aaaggaaagc 540
tgcccatcca tacccacaga aagcacctaa agctccagtt gtttcccaag tcaatgggcc 600
atttcaagtt tcatctgctt ttttggaacc cgggcatatt gtcagacctg atggatcagc 660
attgcttggg aattcccgta caagtgtagc cttgtcttca tggagtcata actctgtacc 720
cgcaatgagt gcatcacagg ggacaaaaga tgtaggaatt tctggcccac cagttccaag 780
taattgttgc aacagcagta gtaatgacag tacaccgagg tcctggccaa atgctcaagc 840
aattgaacct ttggatcaac agaaacatct tagagttatg ccagatttcg cgcaagtata 900
taggttcatt ggcagcgttt ttgacccgga tgctggtggt catctacaga gattgaagca 960
gatggaccct ataaatttgg aaacggtagt gctcttgatg aaaaatctca gcgcaaattt 1020
gacaagcccc gaattcgaga aatatcagca cggcttgttt gcttcatatg agggtggtcc 1080
tgagaagtcc aaatctggcg gttccttcaa gttgctcccc gaaaaatctg gaagcctaat 1140
tctgtctgcg taacttgtga ctttaacaaa ctcgacctct tcgagtcggg catcgtcggg 1200
gaaaactgca ctgtctttga agatcaagat tagtagtgga gaataaagat gccaaggatc 1260

gccaagctgt ggggatcgca aaactggtcc gtaactgagg tctgggcttg tggtttttgt 1320
aggtctgtaa atatcctgtg aaatgggaac acggcagttt gtgcgaacaa tgctgagaga 1380
catcatcgga agtttaggct ttgtataggt tcttatcgga ctttgtatat ggctgcgaga 1440
tacagagatg tcgtgcgacc tagaataaag cttaggcgtc gggtctgttg tgtttatgta 1500
tatgtgcgcg tgtaagatcg aagaagagga agtagcgagg aacgtttgat caggttgtgg 1560
tttttggtag actatattgc attggctgct ttctctcaaa aaaaaaaaaa aa 1612

<210> 2105
<211> 1576
<212> DNA
<213> Pinus radiata

<400> 2105
gaccttttgc atcttcatta ttcttccgcc tgtgaaaaga tggggagatc tccgtgctgt 60
gagaaggctc atactaacaa aggggcctgg actaaacaag aagacgaccg ccttatcgct 120
cacattcgag cccacggcga agggggctgg cgttcgcttc ccaaggccgc agggctgctg 180
agatgcggca agagctgcag actgcgatgg ataaactacc tgcgtcccga tctgaagcgt 240
ggaagcttca ccgaagaaga agacgagctc atcatcaaac tccactcctt cgttggcaac 300
aagtggtctt taattgcagg gagattgccc ggacggacgg acaacgagat aaagaactac 360
tggaacacac acatcaaaag aaaattgctg agcaagggac tcgaccccca aacccatcgt 420
ccactcggcc agccaaacaa tacccccgtc actcggcctg ttctcgagca cgaaattccg 480
gcattccaga accctgcaac gccggagata gcagacttgt tacagcacca ccgattggaa 540
agctcgccta tcaaaccggc agcttcggat gcggaagagc atcccgacct caatctgaat 600
ttgtgtatca gtttgccgtc taattcggcc ccggccgtaa acagagtatc gagcgtcgat 660
acaacagtag attcaaattc taattctggc gacgggctgt gctggcagtt tctctgacgg 720
aggtcgtttc aataagaggg tgtgcattat cgcagcacga ccacgcttat gaccagtgcc 780
aaaggcacaa ggactcgtgg tggaaagatg tttatagtgc aaagatctcc gacttgctta 840
tcgtggaatt gaaataatgt gttggagggc gcagagacgg tgggaaaaag gttttgtgtg 900
ttgcaggtct ggagatatgg tggggaagtg tatggataat aggtatttct ataatctgca 960
attctggtgc aattattcac aacagttagc atttatcaag gaaaaatata cttcgttttg 1020
tgttctcagt cgtaggagat ataccagtac cagtacatta tctgcttgca gggtaagttg 1080
aagttcatta cattgcaatg ccggtgcctt atcgccctca tggccgtatt tttaaagaca 1140
aatcccacgc tgcttcagcc tgcaacaaga tatctttact ctcattacac tgatacatac 1200
cactggtcaa aacttcccat cactgtcata ggctggaaca gagaaactga agcctgttca 1260
aaattttcaa tacttttaga tctggtaaag aagccaatgt gagaactgca aatttcattg 1320
gggcaaaact caggtgtact gtcaaagcat gaaagtccag aatttgatgg tgggatattc 1380
aacatacggc agaggtaccc ccaatgatgt agaaagtatt gggctgggtg cctattacca 1440
cttgcagtgg tgtaggaaaa agtgtagttc tattgcagga gtgtaataaa tgaggtagat 1500
atttttctcc ccgattgatg ttcaatatag actcagcgac gttttatgtg tgttgaaaaa 1560
aaaaaaaaaa aaaaaa 1576

<210> 2106
<211> 210
<212> DNA
<213> Pinus radiata

<400> 2106
ctatgctatt acagaatgtg cctccagcac tacttgtccg cttcttgcgg gaacatcgct 60
cagagtgggc tgattgtaac attgatgctt attcttcagc taccatgaaa gcaaatgctt 120
acaatgttcc aggttcactg ggaggcatta cagggagtca agttatcctt ccactggcac 180
atactgtgga acatgaagag ttcttggaag 210

<210> 2107
<211> 27
<212> PRT
<213> Pinus radiata

<400> 2107
Met Lys His His Val Val His Asn Cys Cys Ser Lys Lys Ala Val Lys
1 5 10 15
Arg Gly Phe Trp Ser Pro Glu Glu Asp Leu Lys
20 25

<210> 2108
<211> 126
<212> PRT
<213> Eucalyptus grandis

<400> 2108
Gly Ile Ser Arg Asn Phe Val Lys Thr Arg Thr Pro Thr Gln Val Ala
1 5 10 15
Ser His Ala Gln Lys Tyr Phe Leu Arg Arg Thr Asn Gln Asn Arg Arg
20 25 30
Arg Arg Arg Ser Ser Leu Phe Asp Ile Thr Thr Asp Ser Tyr Phe Gly
35 40 45
Val Ser Ser Ser Thr Met Glu Glu Gly His His Gln Ala His Gln Val
50 55 60
Pro Ser Phe Pro Leu Ser Leu Pro Pro Ala Val Ser Pro Gly Thr Gly
65 70 75 80
Glu Lys Leu Leu Glu Ser Leu Arg Leu Arg Lys Glu Gly Cys Gln Ser
85 90 95
Lys Pro Thr Pro Ser Lys Pro Ile Arg Pro Val Pro Ile Leu Pro Ile
100 105 110
Pro Pro Ser Ser Lys Met Ala Ala Leu Asp Leu Asn Lys Ala
115 120 125

<210> 2109
<211> 130
<212> PRT
<213> Eucalyptus grandis

<400> 2109
Met Pro Gly Phe Thr Arg Ala Arg Lys Met Ser Met Ser Gly Glu Glu
1 5 10 15
Glu Gly Asp Leu Arg Arg Gly Pro Trp Thr Arg Glu Glu Asp Asn Leu
20 25 30
Leu Ile His Ser Ile Thr Cys His Gly Glu Gly Arg Trp Asn Met Leu
35 40 45
Ala Lys Ser Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg
50 55 60
Trp Leu Asn Tyr Leu Arg Pro Asp Ile Lys Arg Gly Asn Leu Thr Pro
65 70 75 80
Gln Glu Gln Leu Met Ile Leu Glu Leu His His Lys Trp Gly Asn Arg
85 90 95
Trp Ser Lys Ile Ala Gln Tyr Leu Pro Gly Arg Thr Asp Asn Glu Ile
100 105 110
Lys Asn Tyr Trp Arg Thr Arg Val Gln Lys Gln Ala Arg Gln Leu Asn
115 120 125
Ile Glu
130

<210> 2110
<211> 146
<212> PRT

<213> Eucalyptus grandis

<400> 2110
Cys Cys Asp Lys Val Gly Leu Lys Lys Gly Pro Trp Thr Pro Glu Glu
1   5   10   15
Asp Gln Lys Leu Leu Ala Tyr Ile Glu Glu Asn Gly His Gly Ser Trp
            20   25   30
Arg Ala Leu Pro Ser Lys Ala Gly Leu Gln Arg Cys Gly Lys Ser Cys
        35   40   45
Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp Ile Lys Arg Gly Lys
    50   55   60
Phe Ser Leu Gln Glu Glu Gln Thr Ile Ile Gln Leu His Ala Leu Leu
65   70   75   80
Gly Asn Arg Trp Ser Ala Ile Ala Thr His Leu Pro Lys Arg Thr Asp
                85   90   95
Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Leu Lys Lys Arg Leu Ala
            100   105   110
Lys Met Gly Ile Asp Pro Val Thr His Lys Pro Lys Asn Asp Ala Leu
        115   120   125
Val Ser Ser Asp Gly Gln Ser Lys Ser Ala Ala Lys Leu Ser His Leu
    130   135   140
Ala Gln
145

<210> 2111
<211> 99
<212> PRT
<213> Eucalyptus grandis

<400> 2111
Arg Thr Leu Pro Lys Asn Ala Gly Leu Arg Arg Cys Gly Lys Ser Cys
1   5   10   15
Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp Ile Lys Arg Gly Arg
            20   25   30
Phe Thr Phe Glu Glu Glu Glu Thr Ile Ile Gln Leu His Gly Val Leu
        35   40   45
Gly Asn Lys Trp Ser Ala Ile Ala Ala Gln Leu Pro Gly Arg Thr Asp
    50   55   60
Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Ile Lys Lys Arg Leu Leu
65   70   75   80
Lys Met Gly Ile Asp Pro Val Thr His Ser Pro Arg Leu Asp Leu Leu
                85   90   95
Asp Leu Ser

<210> 2112
<211> 59
<212> PRT
<213> Eucalyptus grandis

<400> 2112
Met Gly Arg Gly Arg Leu Gln Leu Lys Arg Ile Glu Asn Lys Ile Asn
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
            20   25   30
His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
        35   40   45

Ser Ala Lys Gly Lys Leu Phe Glu Tyr Ser Thr
50 55

<210> 2113
<211> 79
<212> PRT
<213> Eucalyptus grandis

<400> 2113
Val Lys His Asp Val Glu Thr Leu Ser Ser Lys Val Lys Met Ala Glu
1 5 10 15
Glu Thr Val Lys Arg Val Thr Gly Leu Asn Pro Met Leu His Val Met
20 25 30
Ser Asp Met Ser Ser Val Gly Val Pro Pro Phe Asp Gly Ser Pro Ser
35 40 45
Asp Thr Ser Ala Asp Ala Ala Val Pro Val Arg Asp Pro Lys His Gln
50 55 60
Phe Tyr Gln Thr Asn Ser Ser Asn Pro Ala Ser Ser Ala Asp Asp
65 70 75

<210> 2114
<211> 104
<212> PRT
<213> Eucalyptus grandis

<400> 2114
Gln Val Ala Gln Leu Arg Val Glu Asn Ser Thr Leu Leu Lys Arg Leu
1 5 10 15
Ser Asp Ile Ser Gln Lys Tyr Asn Val Ala Ala Val Asp Asn Arg Val
20 25 30
Leu Glu Ala Asp Val Glu Thr Leu Arg Ala Glu Val Lys Met Ala Glu
35 40 45
Glu Thr Val Lys Arg Val Thr Gly Leu Asn Pro Met Leu His Val Met
50 55 60
Ser Asp Met Ser Ser Val Gly Val Pro Pro Phe Asp Gly Ser Pro Ser
65 70 75 80
Asp Thr Ser Ala Asp Ala Ala Val Pro Val Arg Asp Asp Pro Lys His
85 90 95
Gln Phe Tyr Gln Thr Asn Ser Met
100

<210> 2115
<211> 71
<212> PRT
<213> Eucalyptus grandis

<400> 2115
Met Gly Arg His Ser Cys Cys Tyr Lys Gln Lys Leu Arg Lys Gly Leu
1 5 10 15
Trp Ser Pro Glu Glu Asp Glu Lys Leu Leu Arg Tyr Ile Thr Gln Tyr
20 25 30
Gly His Gly Cys Trp Ser Ser Val Pro Lys Leu Ala Gly Leu Gln Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Thr Phe Ser
65 70

<210> 2116
<211> 55
<212> PRT
<213> Eucalyptus grandis

<400> 2116
Glu Leu Gln His Leu Glu Gln Gln Leu Ser Gly Ala Leu Ser Ser Val
1 5 10 15
Lys Glu Lys Lys Glu Gln Trp Leu Leu Glu Gln Leu Glu Arg Ser Arg
20 25 30
Leu Gln Glu Gln Arg Ala Met Leu Glu Asn Glu Thr Leu Arg Arg Gln
35 40 45
Val Asp Glu Leu Arg Gly Phe
50 55

<210> 2117
<211> 62
<212> PRT
<213> Eucalyptus grandis

<400> 2117
Glu Ile Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe Ser
1 5 10 15
Thr Lys Gly Lys Leu Phe Glu Tyr Ala Thr Asp Cys Cys Met Glu Arg
20 25 30
Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Ala Glu Ser Gln Val Leu
35 40 45
Thr Asn Asn Ala Glu Thr Asn Gly Asn Trp Thr Leu Glu His
50 55 60

<210> 2118
<211> 49
<212> PRT
<213> Eucalyptus grandis

<400> 2118
Leu Phe Pro Pro Gln Ser Glu Gly Phe Phe Asn Pro Met Asp Gly Asn
1 5 10 15
Leu Ser Leu Gln Ile Gly Tyr Asn Pro Thr Cys Leu Asp Glu Met Asn
20 25 30
Ala Ser Val Ser Ser Gln Asn Val Ala Gly Phe Ile Pro Gly Trp Met
35 40 45
Leu

<210> 12119
<211> 195
<212> PRT
<213> Eucalyptus grandis

<400> 2119
Ser Gly Ser Gln Val Ser Ile Ile Met Ile Ser Ser Thr Gly Lys Leu
1 5 10 15
His Glu Tyr Ile Ser Pro Ser Thr Ser Thr Lys Lys Met Tyr Asp Gln
20 25 30
Tyr Gln Gln Ala Leu Glu Val Asp Leu Trp Ser Ser His Tyr Glu Lys

35 40 45
Met Gln Glu Asn Leu Arg Lys Leu Lys Glu Val Asn Lys Lys Leu Gln
50 55 60
Leu Glu Val Arg Arg Arg Phe Gly Glu Gly Leu Asn Gly Met Ser Leu
65 70 75 80
Ser Glu Leu Cys Gly Leu Glu Gln Asp Met Asp Asn Ala Val Ser Leu
85 90 95
Ile Arg Glu Arg Lys Tyr Lys Thr Leu Gly Asn Gln Ile Asp Thr Ala
100 105 110
Arg Lys Lys Lys Lys Asn Ala Glu Glu Ile Asn Lys Ser Leu Leu Gln
115 120 125
Asp Trp Thr Asn Leu Ile Lys His Leu Arg Glu Asp Asp Pro His Phe
130 135 140
Gly Met Val Asp Asn Gly Arg Asp Tyr Glu Ala Val Ile Gly Tyr Thr
145 150 155 160
Asp Ala Ala Ala Ala Ala Arg Leu Tyr Thr Leu Arg Leu Gln Pro Asp
165 170 175
Gln Pro Asn Leu Thr Ser Gly Gly Gly Ser Glu Ile Thr Thr Tyr Pro
180 185 190
Leu Leu Glu
195

<210> 2120
<211> 92
<212> PRT
<213> Eucalyptus grandis

<400> 2120
Met Ala Phe Lys Ser Pro Gly Gly Ile Thr Trp Leu Lys His Leu Leu
1 5 10 15
Val Lys Asn Phe Tyr Leu Gly Glu His Leu Lys Cys Arg Asn Gly Leu
20 25 30
Ile Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ile Asp Ile Ala
35 40 45
Leu Ile Met Phe Ser Pro Ser Asp Arg Val Ser His Phe Ser Gly Lys
50 55 60
Arg Arg Ile Glu Asp Val Leu Thr Arg Phe Ile Asn Leu Thr Asp Gln
65 70 75 80
Glu Arg Thr Leu Leu Asp Val Gln Asp Arg Arg Thr
85 90

<210> 2121
<211> 41
<212> PRT
<213> Eucalyptus grandis

<400> 2121
Met Gly Arg Gly Arg Val Gln Leu Lys Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Leu Leu Cys Asp Ala
35 40

<210> 2122
<211> 96
<212> PRT

<213> Eucalyptus grandis

<400> 2122
Leu Gln Tyr Asp Trp His His Leu Ser Phe Cys Val Ile Ile Ser Val
1 5 10 15
Leu Asn Leu Gln Asn Thr Ile Asn Gly Ser Cys Ser Met Glu Ser Ile
20 25 30
Leu Glu Arg Tyr Glu Arg Tyr Thr Tyr Ala Glu Arg Gln Gln Val Ala
35 40 45
Thr Asp Ser Pro Gln Val Gln Gly Ser Trp Ser Leu Glu Tyr Pro Lys
50 55 60
Leu Val Ala Arg Ile Glu Val Leu Gln Arg Asn Ile Arg Asn Leu Ser
65 70 75 80
Gly Glu Glu Leu Asp Pro Leu Ser Leu Arg Glu Leu Gln Tyr Leu Glu
85 90 95

<210> 2123
<211> 76
<212> PRT
<213> Eucalyptus grandis

<400> 2123
Phe Leu Phe Arg Arg Lys Gln Gly Ala Val Glu Glu Leu Lys Met Val
1 5 10 15
Gln Glu Val Arg Lys Gly Pro Trp Thr Glu Gln Glu Asp Phe Gln Leu
20 25 30
Val Cys Phe Val Gly Leu Phe Gly Asp Arg Arg Trp Asp Phe Ile Ala
35 40 45
Lys Val Ser Gly Leu Lys Val Ala Gly Glu Asn Asn Arg Tyr Val Arg
50 55 60
Phe Lys Ala Trp Gly Phe Phe Gly Arg Ser Tyr Phe
65 70 75

<210> 2124
<211> 55
<212> PRT
<213> Eucalyptus grandis

<400> 2124
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Glu Glu Asp Gln Arg Leu Ile Asp Tyr Ile Arg Leu His
20 25 30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ser Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu
50 55

<210> 2125
<211> 123
<212> PRT
<213> Eucalyptus grandis

<400> 2125
Val Glu Gln Val Gln Phe Leu Glu Lys Ser Phe Glu Val Glu Asn Lys
1 5 10 15
Leu Glu Pro Asp Arg Lys Ile Gln Leu Ala Lys Asp Leu Gly Leu Gln

20 25 30
Pro Arg Gln Val Ala Ile Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys
35 40 45
Thr Lys Gln Leu Glu Lys Asp Tyr Glu Thr Leu Gln Ala Ser Phe Asn
50 55 60
Thr Leu Lys Ser Asp Tyr Asp Thr Leu Ile Lys Glu Arg Asn Asp Leu
65 70 75 80
Lys Ala Glu Val Leu Asn Leu Thr Asp Lys Leu Leu His Lys Gly Asn
85 90 95
Glu Lys Glu Ser Ser Glu Ser Ser Ser Lys Ser Ser Gln Gly Leu Phe
100 105 110
Gln Asn Pro Ile Ala Asp Ser Val Ser Glu Asp
115 120

<210> 2126
<211> 105
<212> PRT
<213> Eucalyptus grandis

<400> 2126
Met Ala Arg Phe Pro Arg Val Asp Lys Ser Asn Ser Lys Lys Thr Val
1 5 10 15
Lys Lys Gly Ala Trp Ser Ala Glu Glu Asp Gln Lys Leu Val Ala Tyr
20 25 30
Ile Lys Arg Tyr Gly Ile Trp Asn Trp Thr His Met Ala Glu Pro Ala
35 40 45
Gly Leu Ala Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr
50 55 60
Leu Arg Pro Asn Ile Lys His Gly Asn Ile Thr Gln Glu Glu Glu Glu
65 70 75 80
Ile Ile Ile Asn Leu His Arg Val Leu Gly Asn Arg Trp Ala Ser Ile
85 90 95
Ala Ser Arg Leu Ser Gly Arg Thr Asp
100 105

<210> 2127
<211> 115
<212> PRT
<213> Eucalyptus grandis

<400> 2127
Met Ala Arg Glu Lys Ile Lys Ile Lys Lys Ile Asp Asn Val Thr Ala
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Arg Gly Leu Phe Lys Lys Ala
20 25 30
Gly Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Val Ile Phe
35 40 45
Ser Ala Thr Gly Lys Leu Phe Glu Tyr Ser Ser Ser Ser Met Lys Asp
50 55 60
Thr Leu Glu Arg Tyr Thr Leu His His Asn Asn Leu Glu Asn Met Asp
65 70 75 80
Gln Pro Ser Leu Glu Leu Gln Leu Glu His Ser Asn Asn Met Arg Leu
85 90 95
Ser Lys Glu Val Ala Glu Lys Ser His Arg Leu Arg Gln Leu Arg Gly
100 105 110
Glu Asp Leu
115

<210> 2128
<211> 155
<212> PRT
<213> Eucalyptus grandis

<400> 2128
Met Gly Arg Lys Cys Ser Arg Cys Gly Asn Ile Gly His Asn Ser Arg
1   5   10   15
Thr Cys Thr Thr Phe Met Gly Ala Ala Ser Ala Cys Gly Leu Lys Leu
            20   25   30
Phe Gly Val Gln Leu Asp Leu Ser Ser Ser Ser Pro Pro Ser Ser Ser
        35   40   45
Ala Ser Ser Gly Ser Ala His Pro Tyr Ser Leu Val Ile Lys Lys Ser
    50   55   60
Leu Ser Met Asp Arg Leu Ser Ser Ser Ser Ala Ser Ser Ser Ser Pro
65   70   75   80
Ser Ser Ser Leu Ser Ser Pro Arg Val Leu Ala Asp Glu His Cys Asn
                85   90   95
Lys Thr Ser Leu Gly Tyr Leu Ser Asp Gly Leu Ala Ala Arg Ser Gln
            100   105   110
Glu Lys Arg Lys Gly Val Pro Trp Thr Glu Glu Glu His Arg Thr Phe
        115   120   125
Leu Met Gly Leu Glu Lys Met Gly Lys Gly Asp Trp Arg Gly Ile Ser
    130   135   140
Arg Asn Tyr Val Thr Thr Arg Thr Pro Thr Gln
145   150   155

<210> 2129
<211> 145
<212> PRT
<213> Eucalyptus grandis

<400> 2129
Arg Gly Trp Arg Gln Ile Glu Glu His Val Gly Thr Lys Thr Ala Val
1   5   10   15
Gln Ile Arg Ser His Ala Gln Lys Phe Phe Ser Lys Val Ala Arg Gly
            20   25   30
Val Ser Gly Ser Ser Glu Gly Val Ile Lys Pro Ile Glu Ile Pro Pro
        35   40   45
Pro Arg Pro Lys Arg Lys Pro Met His Pro Tyr Pro Arg Lys Ser Val
    50   55   60
Asp Ser Lys Glu Val Lys Leu Ser Tyr Gln Gln Glu Arg Ser Pro Ser
65   70   75   80
Pro Ile Ser Ser Val Ala Asp Glu Asn Thr Gly Ser Pro Thr Ser Val
                85   90   95
Leu Ser Ala His Gly Ser Asp Met Leu Gly Ser Ala Ser Leu His Gln
            100   105   110
Gln Asn Arg Cys Ser Ser Pro Thr Ser Cys Thr Thr Asp Val Pro Ser
        115   120   125
Ile Gly Leu Ala Val Ile Glu Lys Gln Pro Glu Ile Phe Lys Glu Glu
    130   135   140
Asp
145

<210> 2130
<211> 156

<212> PRT
<213> Eucalyptus grandis

<400> 2130

Phe Gly His Glu Phe Thr Ser Ser Pro Ala Ser Ser Ser Ser Leu Ser
1   5   10   15
Ser Ser Arg Ile Ser Ile Gly Glu Asn Ser Asp Lys Ala Ser Leu Gly
            20   25   30
Tyr Leu Ser Asp Gly Leu Leu Gly Arg Ser Gln Glu Lys Lys Lys Gly
        35   40   45
Val Pro Trp Thr Glu Glu Glu His Arg Thr Phe Leu Val Gly Leu Glu
    50   55   60
Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ser Arg Ser Tyr Val Thr
65   70   75   80
Thr Arg Thr Pro Ala Gln Val Ala Ser His Ala Gln Lys Tyr Phe Leu
                85   90   95
Arg Gln Val Ser Phe Asn Lys Lys Lys Arg Arg Ser Ser Leu Phe Asp
            100   105   110
Met Val Asp Val Lys Thr Ala Ala Gly Asp Arg Leu Gly Ser Leu Thr
        115   120   125
Ala Lys Pro Ser Glu Ser Val Pro Asn Cys Lys Met Gly Thr Leu Met
    130   135   140
Ser His Leu Gln Val His Asp Ala Arg Thr Thr Gln
145   150   155

<210> 2131
<211> 49
<212> PRT
<213> Eucalyptus grandis

<400> 2131

Met Val Gln Glu Val Arg Lys Gly Pro Trp Thr Glu Gln Glu Asp Phe
1   5   10   15
Gln Leu Val Cys Phe Val Gly Leu Phe Gly Asp Arg Arg Trp Asp Phe
            20   25   30
Ile Ala Lys Val Ser Gly Leu Lys Val Ala Gly Glu Asn Asn Arg Ile
        35   40   45
Glu

<210> 2132
<211> 151
<212> PRT
<213> Eucalyptus grandis

<400> 2132

Asp Asp Val Cys Gly Gly Gly Lys Arg Pro Glu Arg Pro Phe Phe Cys
1   5   10   15
Thr Tyr Asp Gly Glu Glu Asn Gly Asp Asp Asp Tyr Asp Glu Tyr Leu
            20   25   30
His Gln Pro Glu Lys Lys Arg Arg Leu Ser Ile Glu Gln Val Leu Tyr
        35   40   45
Leu Glu Lys Ser Phe Glu Thr Asp Asn Lys Leu Glu Pro Asp Lys Lys
    50   55   60
Val Gln Leu Ala Lys Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Ile
65   70   75   80
Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Met Glu Lys

85 90 95
Asp Phe Asp Lys Leu Gln Ala Ser Phe Asn Cys Leu Lys Ser Asp Tyr
100 105 110
Glu Ser Leu Leu Asn Glu Lys Glu Lys Leu Lys Ala Glu Val Ile His
115 120 125
Leu Thr His Gln Leu Glu Gln Arg Ser Asn Gly Ile Leu Asn His Ser
130 135 140
Thr Tyr Leu Asn Asn Cys Thr
145 150

<210> 2133
<211> 133
<212> PRT
<213> Eucalyptus grandis

<400> 2133
Met Gly Ser Arg Thr Arg Val Gly Gly Gly Gly Asp Asp Gly Arg Val
1 5 10 15
Val Asn Gly Met Pro Ser Phe Val Pro Gln Leu Pro Thr Ser Asn Ser
20 25 30
Met Gly Ser Glu Gly Asn Ser Ile Arg Ser Ser Arg Ile Thr Asp Phe
35 40 45
Gly Thr Leu Glu Gln Ser Leu Gly Tyr Arg Ile Glu Asp Ala Val Asp
50 55 60
Leu Ser Arg Asn Pro Val Phe Asn Gln Met Lys Ser Ser Ala Gln Ala
65 70 75 80
Leu Gly Ala Asp Val Gln Phe Gly Ser Leu Asn Lys Ser Leu Ser Ser
85 90 95
Ser Asp Arg Asn Leu Ser Val Asn Ile Val Gly Ser Gln Thr Leu Ser
100 105 110
Met His Arg Glu Ser Gln Ser Asn Leu Val Ser Ile Pro Gly Ala His
115 120 125
Arg Glu Asn Trp Gly
130

<210> 2134
<211> 150
<212> PRT
<213> Eucalyptus grandis

<400> 2134
Met Pro Pro Pro Arg Ala Ala Thr Pro Asp Val Ala Gly Asp Glu Ser
1 5 10 15
Ser Gly Ala Asp Ala Gly Ala Gly Glu Ile Met Leu Phe Gly Val Arg
20 25 30
Val Val Val Asp Ser Met Arg Lys Cys Val Ser Leu Asn Asn Leu Ser
35 40 45
Gln Tyr Gln His Pro Gln Asp Ala Asn Pro Pro Asn Ala Ser Gly Gly
50 55 60
Ser Gly Gly Asn Lys Glu Glu Ala Ala Lys Gly Tyr Ala Ser Ala Asp
65 70 75 80
Asp Ala Ala His Asn Pro Gly Gly Gly Arg Glu Arg Lys Arg Gly Val
85 90 95
Pro Trp Thr Glu Glu Glu His Arg Leu Phe Leu Leu Gly Leu Gln Lys
100 105 110
Val Gly Lys Gly Asp Trp Arg Ala Ile Ser Arg Asn Phe Val Lys Thr
115 120 125

Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr Phe Leu Arg
130 135 140
Arg Ser Asn Leu Asn Arg
145 150

<210> 2135
<211> 125
<212> PRT
<213> Eucalyptus grandis

<400> 2135
Glu Asn Val Ala Ser Gly Ser Thr Glu Arg Pro Arg Ile Arg His Gln
1 5 10 15
His Ser Gln Ser Met Asp Gly Ser Thr Ser Ile Lys Pro Glu Met Leu
20 25 30
Met Ser Gly Ser Glu Asp Ala Ser Ala Ala Asp Ala Lys Lys Ala Met
35 40 45
Ser Ala Ala Lys Leu Ala Glu Leu Ala Leu Ile Asp Pro Lys Arg Ala
50 55 60
Lys Arg Ile Trp Ala Asn Arg Gln Ser Ala Ala Arg Ser Lys Glu Arg
65 70 75 80
Lys Met Arg Tyr Ile Ala Glu Leu Glu Arg Lys Val Gln Thr Leu Gln
85 90 95
Thr Glu Ala Thr Thr Leu Ser Ala Gln Leu Thr Leu Leu Gln Arg Asp
100 105 110
Thr Asn Gly Leu Thr Ala Glu Asn Ser Glu Leu Lys Leu
115 120 125

<210> 2136
<211> 72
<212> PRT
<213> Eucalyptus grandis

<400> 2136
Met Ala Asp Ser Glu His Ser Ser Ser Asp Asp Thr Tyr Val Asp Ser
1 5 10 15
Arg Glu Glu Thr Ser Glu Glu Ser Lys Leu Asp Phe Ser Glu Asp Glu
20 25 30
Glu Thr Leu Val Ile Arg Met Tyr Asn Leu Val Gly Glu Arg Trp Ser
35 40 45
Leu Ile Ala Gly Arg Ile Pro Gly Arg Thr Ala Glu Glu Ile Glu Lys
50 55 60
Tyr Trp Asn Ser Arg Tyr Ser Thr
65 70

<210> 2137
<211> 135
<212> PRT
<213> Eucalyptus grandis

<400> 2137
Met Ala Gly Glu Glu Pro Tyr Ser Ala Asp Thr Asn Ser Asp Thr Phe
1 5 10 15
Ala Asp Glu Glu Thr Leu Ile Pro Ser Ser Ser Glu Ala Leu Glu Ser
20 25 30
Ala Trp Val Pro Thr Ser Ser Thr Ala His His Gly Ser Lys Ser Val
35 40 45

Val Asn Phe Glu Asp Val Cys Gly Gly Gly Asp Thr Asn Thr Ala Pro
50 55 60
Arg Pro Tyr Leu Arg Gln Ile Asp Leu Lys Glu Glu Ala Val Glu Glu
65 70 75 80
Asp Tyr Gly Asp Gly Asn Phe Gln Pro Pro Gly Lys Lys Arg Arg Leu
85 90 95
Ser Ala Asp Gln Val His Phe Leu Glu Arg His Phe Glu Val Glu Asn
100 105 110
Lys Leu Glu Pro Glu Arg Lys Ile Gln Leu Ala Lys Asp Leu Gly Leu
115 120 125
Gln Pro Arg Gln Val Ala Ile
130 135

<210> 2138
<211> 123
<212> PRT
<213> Eucalyptus grandis

<400> 2138
Asp Thr Glu Asp Ser Lys Lys Lys Glu Arg His Ile Val Thr Trp Ser
1 5 10 15
Gln Glu Glu Asp Asp Ile Leu Arg Glu Gln Ile Gly Ile His Gly Thr
20 25 30
Glu Asn Trp Ser Ile Ile Ala Ser Lys Phe Lys Asp Lys Thr Thr Arg
35 40 45
Gln Cys Arg Arg Arg Trp Tyr Thr Tyr Leu Asn Ser Asp Phe Lys Lys
50 55 60
Gly Gly Trp Ser Pro Glu Glu Asp Val Leu Leu Cys Glu Ala Gln Lys
65 70 75 80
Ile Phe Gly Asn Arg Trp Thr Glu Ile Ala Lys Val Val Ser Gly Arg
85 90 95
Thr Asp Asn Ala Val Lys Asn Arg Phe Thr Thr Leu Cys Lys Lys Arg
100 105 110
Ala Arg Tyr Glu Ala Leu Ala Lys Glu Asn Thr
115 120

<210> 2139
<211> 126
<212> PRT
<213> Eucalyptus grandis

<400> 2139
Met Gly Arg Gln Pro Cys Cys Asp Lys Leu Gly Val Lys Lys Gly Pro
1 5 10 15
Trp Thr Ala Glu Glu Asp Arg Lys Leu Val Asn Phe Ile Leu Thr His
20 25 30
Gly Gln Cys Cys Trp Arg Ala Val Pro Lys Leu Ala Gly Leu Arg Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Leu Leu Asn Glu Ala Glu Glu Ser Leu Val Ile Asp
65 70 75 80
Leu His Ala Thr Leu Gly Asn Arg Trp Ser Lys Ile Ala Ala Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn His Trp Asn Thr His Ile
100 105 110
Lys Lys Lys Leu Ile Arg Met Gly Ile Asp Pro Val Thr His

115 120 125

<210> 2140
<211> 108
<212> PRT
<213> Eucalyptus grandis

<400> 2140
Pro Gly Ser Arg Ser Ser Asn Arg Arg Val Glu Arg Lys Lys Gly Asn
1 5 10 15
Pro Trp Thr Glu Glu Glu His Arg Arg Phe Leu Ile Gly Leu Gln Lys
20 25 30
Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asp Phe Val Thr Thr
35 40 45
Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr Tyr Ile Arg
50 55 60
Gln Ser Asn Ala Gly Arg Arg Lys Arg Arg Ser Ser Leu Phe Asp Met
65 70 75 80
Ala Pro Asp Met Val Cys Leu Leu Tyr Asp Val Ala Ser Ala His Ser
85 90 95
Leu His Ser Val Gln Ile Ser Gly Ser Cys Met Phe
100 105

<210> 2141
<211> 109
<212> PRT
<213> Eucalyptus grandis

<400> 2141
Met Arg Lys Pro Cys Cys Asp Lys Gln Asp Thr Asn Lys Gly Ala Trp
1 5 10 15
Ser Lys Gln Glu Asp Gln Lys Leu Ile Asp Tyr Ile Arg Lys His Gly
20 25 30
Glu Gly Cys Trp Arg Thr Leu Pro Lys Ala Ala Gly Leu Leu Arg Cys
35 40 45
Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu
50 55 60
Lys Arg Gly Asn Phe Ala Glu Asp Glu Glu Asp Leu Ile Ile Lys Leu
65 70 75 80
His Ala Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Leu Pro
85 90 95
Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr Trp Asn Ser
100 105

<210> 2142
<211> 65
<212> PRT
<213> Eucalyptus grandis

<400> 2142
Ser Pro Glu Glu Asp Glu Lys Leu Phe Asn Tyr Ile Thr Arg Phe Gly
1 5 10 15
Val Gly Cys Trp Ser Ser Val Pro Lys Leu Ala Gly Leu Gln Arg Cys
20 25 30
Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu
35 40 45
Lys Arg Gly Met Phe Ser Gln Glu Glu Glu Asp Leu Ile Val Ser Leu

    50   55   60
His
65

      <210> 2143
      <211> 121
      <212> PRT
      <213> Pinus radiata

      <400> 2143
Ala Lys Ser Tyr Leu Gly Ser Leu Thr Glu Thr Ile Gln Ser Leu Asn
 1   5   10   15
Ala Glu Leu Glu Arg Thr Arg Ser Glu Leu Val Glu Ala Lys Lys Arg
            20   25   30
Glu Glu Glu Ile Ile Ser Lys Glu Ala Glu Arg Val Glu Lys Asn Lys
        35   40   45
Arg Glu Val Glu Asn Leu Glu Leu Asn Leu Leu Gln Thr Thr Ala Glu
    50   55   60
Ala Gly Arg Ala Lys Leu Glu Leu Glu Thr Ala Tyr Glu Glu Val Gln
65   70   75   80
Ser Ala Arg Leu Glu Thr Ala Gln Leu Arg Ala Ala Leu Glu Ala Thr
                85   90   95
Glu Gly Lys Phe Glu Ala Met Leu Ser Glu Thr Arg Leu Glu Ala Glu
            100   105   110
His Val Lys Gly Ala Ile Glu Lys Tyr
        115   120

      <210> 2144
      <211> 71
      <212> PRT
      <213> Pinus radiata

      <400> 2144
Glu Ile Leu Val Thr Gln Ile Glu Gln Leu Gln Arg Lys Glu Arg Met
 1   5   10   15
Phe Ser Glu Glu Asn Asn Phe Leu Arg Lys Arg Ile Val Asp Pro His
            20   25   30
Ser Val Leu Thr Thr Pro Ala Ser Gly Ser Gly Ser Leu Gln Arg Ser
        35   40   45
Glu Val Glu Thr Gln Leu Val Met Arg Pro Pro Ser Ser Asn Ala Asp
    50   55   60
Phe Leu Phe Asn Ser Ser His
65   70

      <210> 2145
      <211> 110
      <212> PRT
      <213> Pinus radiata

      <400> 2145
Ser Leu Val Trp Gly Ala Leu Lys Met Gly Lys Thr Lys Met Glu Ile
 1   5   10   15
Lys Arg Ile Gln Asn Pro Ser Arg Arg Gln Val Thr Phe Ser Lys Arg
            20   25   30
Lys Asn Gly Leu Leu Lys Lys Ala Phe Glu Leu Ser Val Leu Cys Asp
        35   40   45
Ala Glu Val Ala Leu Ile Ile Phe Ser Glu Thr Gly Lys Ile Cys Glu

50 55 60
Phe Ala Ser His Asp Asp Met Ala Thr Ile Leu Glu Lys Tyr Arg Ile
65 70 75 80
Tyr Thr Glu Thr His Gly Asn Met Glu Ser Ser Ser Val Gln Ser Val
85 90 95
Lys Ile Gly Glu Ser Gln Leu Lys Ala Leu Arg Glu Lys Met
100 105 110

<210> 2146
<211> 50
<212> PRT
<213> Pinus radiata

<400> 2146
Leu Arg Gly Ala Asn Gly Cys Thr Ile Pro Ser Ile Gly Leu Thr Ser
1 5 10 15
Ile Glu Arg Val Glu Val Gln Thr Gln Leu Val Met Arg Pro Pro His
20 25 30
Ala Thr Glu Met Asp Asp Asn Phe Met Asp Val Asp Asn Val Pro Leu
35 40 45
Ser Gly
50

<210> 2147
<211> 168
<212> PRT
<213> Pinus radiata

<400> 2147
Glu Asp Gly Ser Leu Val Ile Cys Glu Arg Ser Leu Ser Ala Ala Gln
1 5 10 15
Gly Met Pro Met Val Ser Gln Ser Gln Ser Phe Val His Gly Glu Leu
20 25 30
Leu Ser Ser Gly Tyr Leu Ile Arg Pro Cys Glu Gly Arg Gly Ala Leu
35 40 45
Val Ile Met Val Asp His Arg Asn Leu Glu Ala Ser Ser Val Pro Glu
50 55 60
Ala Leu Arg Pro Leu Tyr Glu Ser Ser Thr Phe Phe Ala Gln Lys Met
65 70 75 80
Thr Val Glu Ala Ser Tyr His Leu Gln Gly Lys Val Gln Pro Glu Met
85 90 95
Ile Ser Leu Ser Lys Lys Leu Gln Gln Pro Cys Asn Val Arg Ser Tyr
100 105 110
Ser Gln Arg Leu Cys Arg Gly Phe Asn Glu Ala Val Asn Thr Leu Pro
115 120 125
Asp Asp Gly Trp Met Ser Leu Ser Lys Asp Gly Leu Gly Asp Val Thr
130 135 140
Ile Cys Glu Ser Phe Val Lys Leu Pro Glu Pro Asn Ala Ser Gln Ile
145 150 155 160
Ala Tyr Val Asn Ser Met Gly Thr
165

<210> 2148
<211> 120
<212> PRT
<213> Pinus radiata

<400> 2148
Glu Asn Glu Ser Leu Arg Ala Arg Leu Arg His Met Asn Gly Asp Asp
1 5 10 15
Ile Asn Ser Leu Lys Leu Pro Glu Leu Phe His Leu Glu Gln Gln Leu
20 25 30
Glu Thr Ala Ala Thr Gln Val Arg Arg Arg Lys Asp Gln Val Leu Asp
35 40 45
Asn Glu Lys Ile Lys Arg Arg Asn Lys Met Arg Arg Lys Glu Asp Glu
50 55 60
Asn Ile Ile Leu His Glu Met Leu Asp Gln His His Gly Gln Met Glu
65 70 75 80
Glu Asp Asn Ala Gln Ile Asn Phe Leu Phe Cys Gln Pro Leu Asn Arg
85 90 95
Ser Asp Thr Thr Phe Pro Ala Ser Leu Leu Arg Leu Gln Pro Asn Gln
100 105 110
Pro Asn Leu Gln Asp Ile Gly Tyr
115 120

<210> 2149
<211> 165
<212> PRT
<213> Pinus radiata

<400> 2149
Ser Pro Gln Val Glu His Arg Pro Phe Ser Pro His Glu Asp Ala Thr
1 5 10 15
Ile Ile Gln Ala His Ala Arg His Gly Asn Lys Trp Ala Thr Ile Ala
20 25 30
Arg Leu Leu Pro Gly Arg Thr Asp Asn Ala Ile Lys Asn His Trp Asn
35 40 45
Ser Thr Leu Arg Arg Arg Tyr His Gly Glu Lys Asp Gln Ser Asn Gly
50 55 60
Leu Ala Val Asn Leu Glu Ser Ala Ala Glu Asp Lys Glu Thr Met Thr
65 70 75 80
Pro Met Thr Pro Val Thr Ala Thr Ala Thr Ala Thr Ala Thr Ala Met
85 90 95
Pro Val Ala Leu Val Phe Pro Thr Ala Ala Asp Asn Val Arg Lys Arg
100 105 110
Ser Asn Ser Ser Cys Ser Ala Asn Asp Asn Pro Gly Asp Ala Glu Val
115 120 125
Glu Ser Cys Arg Leu Lys Arg Leu Asn Phe Ser Glu Ser Pro Ser Ser
130 135 140
Ser Glu Asn Ile Asn Asn Asn Asn Asn Asn Glu Glu Ala Val Ser Gly
145 150 155 160
His Cys Asn Ser Ala
165

<210> 2150
<211> 68
<212> PRT
<213> Pinus radiata

<400> 2150
Met Gly Arg Gly Pro Val Gln Leu Arg Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Ile Lys Lys Ala
20 25 30

Ser Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45
Ser Asn Lys Gly Lys Leu Tyr Glu Phe Ser Ser Ser Ser Met Thr Lys
50 55 60
Ile Leu Glu Arg
65

<210> 2151
<211> 152
<212> PRT
<213> Pinus radiata

<400> 2151
Gln Ala Gly Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile
1 5 10 15
Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Thr Phe Ser Pro Gln Glu
20 25 30
Glu Asn Leu Ile Val Glu Leu His Ser Val Leu Gly Asn Arg Trp Ser
35 40 45
Gln Ile Ala Thr His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn
50 55 60
Leu Trp Asn Ser Cys Ile Lys Lys Lys Leu Arg Gln Arg Gly Ile Asp
65 70 75 80
Pro Asn Thr His Arg Pro Leu Ser Glu Val Asn Ala Glu Ala Gly Asp
85 90 95
Ser Lys Asn Asp Asn Ser Asn Lys Glu Val Glu Thr Gln Ala Ala Met
100 105 110
Asp Glu Ser His Val Ser Ala Gly Asn Glu Phe Lys His Leu Asn Ala
115 120 125
Ile Pro Arg Ala Asp Thr Ala Asn Pro Lys Phe Phe His Val Pro Val
130 135 140
Glu Asp Asn Thr Leu Ile Ala Ser
145 150

<210> 2152
<211> 89
<212> PRT
<213> Pinus radiata

<400> 2152
Met Arg Cys Thr Arg Trp Gln Gly Leu Pro Phe Ser Ser Lys Pro Lys
1 5 10 15
Val Lys Lys Gly Leu Trp Ser Pro Glu Glu Asp Glu Lys Leu Ile Asn
20 25 30
Tyr Met Met Lys Asn Gly Leu Leu Gly Cys Ser Trp Ser Tyr Val Ala
35 40 45
Lys Gln Ile Gly Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp
50 55 60
Thr Asn Tyr Leu Arg Pro Gly Leu Lys Arg Gly Ala Ile Ser Pro Glu
65 70 75 80
Glu Glu Gln Leu Ile Ile His Leu Gln
85

<210> 2153
<211> 94
<212> PRT
<213> Pinus radiata

<400> 2153
Met Gly Arg Ala Pro Cys Cys Asp Lys Ala Asn Val Lys Lys Gly Pro
1   5   10   15
Trp Ser Pro Glu Glu Asp Thr Lys Leu Lys Ala Phe Ile Glu Gln His
            20   25   30
Gly Thr Gly Gly Asn Trp Ile Ala Leu Pro Gln Lys Ala Gly Leu Lys
        35   40   45
Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro
    50   55   60
Asp Ile Arg His Gly Gly Phe Ser Glu Asp Glu Asp Asn Ile Ile Cys
65   70   75   80
Ser Leu Tyr Ala Ser Ile Gly Ser Met Val Ser Ile Ile Ala
                85   90

<210> 2154
<211> 217
<212> PRT
<213> Pinus radiata

<400> 2154
Met Val Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Asp Thr Ser
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
            20   25   30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Ile Ile Phe
        35   40   45
Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Ser Pro Ser Met Glu Glu
    50   55   60
Ile Leu Glu Lys Tyr Lys Lys Arg Ser Lys Glu Asn Gly Met Ala Gln
65   70   75   80
Thr Thr Lys Glu Gln Asp Thr Gln Tyr Ser Lys His Ser Lys Gln Lys
                85   90   95
Leu Ala Asn Met Glu Glu Gln Ile Arg Ile Leu Glu Ser Thr Gln Arg
            100   105   110
Lys Met Leu Gly Glu Gly Leu Glu Ser Cys Ser Met Ala Glu Leu Asn
        115   120   125
Lys Leu Glu Ser Gln Ala Glu Arg Gly Leu Ser His Ile Arg Ala Arg
    130   135   140
Lys Thr Glu Ile Leu Val Asp Gln Ile Glu Cys Leu Lys Arg Lys Glu
145   150   155   160
Arg Leu Leu Ser Glu Glu Asn Ala Leu Leu Ser Arg Lys Trp Val Asp
                165   170   175
Arg Gln Ser Val Asp Gly Ser Gly Ser Thr Ser Ser Ser Ile Gly Leu
            180   185   190
Gly Ser Ile Glu Gln Ile Glu Val Glu Thr Gln Leu Val Ile Arg Pro
        195   200   205
Pro Asn Ala Gln Asp His Cys Ser Val
    210   215

<210> 2155
<211> 113
<212> PRT
<213> Pinus radiata

<400> 2155
Leu Gly Trp Gly Arg Gln Pro Ala Ala Leu Arg Thr Phe Ser Gln Arg

1   5   10   15
Leu Cys Lys Gly Phe Asn Glu Ala Val Asn Gly Phe Thr Asp Asp Gly
            20   25   30
Trp Ser Leu Met Gly Asn Asp Gly Met Glu Asp Val Thr Ile Leu Val
        35   40   45
Asn Ser Ser Pro Ser Lys Leu Phe Gly Gln Gln Phe Ala Ser Ser Asp
    50   55   60
Gly Leu Pro Ala Leu Gly Gly Gly Ile Leu Cys Ala Lys Ala Ser Met
65   70   75   80
Leu Leu Gln Asn Val Pro Pro Ala Leu Leu Val Arg Phe Leu Arg Glu
                85   90   95
His Arg Ser Glu Trp Ala Asp Ser Asn Ile Asp Ala Tyr Ser Ala Ala
            100   105   110
Ser

<210> 2156
<211> 107
<212> PRT
<213> Pinus radiata

<400> 2156
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1   5   10   15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Ala His Ile Arg Thr His
            20   25   30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Met Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
    50   55   60
Leu Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Glu Leu Ile Ile Lys
65   70   75   80
Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
                85   90   95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
            100   105

<210> 2157
<211> 124
<212> PRT
<213> Pinus radiata

<400> 2157
Leu Trp Leu Arg Phe Ser Gly Met Asp Arg Ser Asn Ser Ala Thr Gly
1   5   10   15
Glu Glu Asp Val Leu Ser Arg Cys Arg Glu Arg Lys Arg Phe Met Lys
            20   25   30
Leu Ala Ile Glu Asn Arg Tyr Lys Leu Ala Thr Ala His Val Ala Tyr
        35   40   45
Met Asp Ser Leu Arg Arg Met Gly Thr Gly Leu Arg Leu Phe Ala Glu
    50   55   60
Gly Glu Thr Met Ser Glu Ser Ser Tyr Ser Thr Ser Pro Ile Gly Thr
65   70   75   80
Ser Glu Leu Ala Val Val Leu Pro Glu Lys Ser Val Ser Pro Ser Pro
                85   90   95
Phe Pro Ser Ser Ser Pro Ser Leu Ser Gln Pro Gln Ser Pro Arg Ser
            100   105   110

Glu Arg Ala Glu Ser Arg Ser Pro Leu Asp Ser Phe
        115   120

<210> 2158
<211> 110
<212> PRT
<213> Pinus radiata

<400> 2158
Asp Gly Leu Val Gln Asn Ser Arg Glu Arg Lys Lys Gly Val Pro Trp
1   5   10   15
Thr Glu Glu Glu His Lys Met Phe Leu Leu Gly Leu His Lys Leu Gly
            20   25   30
Lys Gly Asp Trp Arg Gly Ile Ser Arg Asn Phe Val Thr Ser Arg Thr
        35   40   45
Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr Phe Leu Arg Gln Ser
    50   55   60
Asn Leu Asn Lys Arg Lys Arg Arg Ser Ser Leu Phe Asp Ile Ser Thr
65   70   75   80
Asp Ser Met Glu Asp Cys Tyr Gln Gly Ile Pro Glu Leu Ser Pro Val
                85   90   95
Met His Asp Leu Ser Leu Gly Gln Asn Ser Ser Leu Thr Ser
            100   105   110

<210> 2159
<211> 175
<212> PRT
<213> Pinus radiata

<400> 2159
Ser Ser Pro Val Ser Lys Pro Lys Leu Arg Lys Gly Leu Trp Ser Pro
1   5   10   15
Glu Glu Asp Asp Lys Leu Ile Asn Tyr Met Met Lys Asn Gly Gln Gly
            20   25   30
Cys Trp Ser Asp Val Ala Lys Gln Ala Gly Leu Gln Arg Cys Gly Lys
        35   40   45
Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg
    50   55   60
Gly Ala Phe Ser Pro Gln Glu Glu Gln Leu Ile Ile His Leu His Ser
65   70   75   80
Ile Leu Gly Asn Arg Trp Ser Gln Ile Ala Ala Arg Leu Pro Gly Arg
                85   90   95
Thr Asp Asn Glu Ile Lys Asn Phe Trp Asn Ser Cys Ile Lys Lys Lys
            100   105   110
Leu Lys His Leu Ser Ala Ser Thr Asn Asn Ser Lys Ser Ile Ser Ala
        115   120   125
Pro Asn Arg Thr Ser Thr Met Asn Ser Ser Ile Thr Pro Phe Ser Glu
    130   135   140
Ser Ser Ala Glu Pro Leu Glu Val Met Ala Thr Arg Tyr Gln Pro Ser
145   150   155   160
Asn Ala Phe Asn His Glu Val Pro Thr Ala Glu Asn Gln Val Leu
                165   170   175

<210> 2160
<211> 78
<212> PRT
<213> Pinus radiata

<400> 2160

Met Gly Arg Ala Pro Cys Cys Glu Lys Val Gly Leu Lys Lys Gly Pro
1 5 10 15
Trp Thr Pro Glu Glu Asp Gln Lys Leu Leu Ala Tyr Ile Gln Glu His
20 25 30
Gly His Gly Ser Trp Arg Ala Leu Pro Gln Lys Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp
50 55 60
Ile Lys Arg Gly Lys Phe Asn Pro Gln Glu Glu Gln Thr Ile
65 70 75

<210> 2161
<211> 159
<212> PRT
<213> Pinus radiata

<400> 2161

Arg Thr Pro Arg Cys Asp Gln Met Gly Leu Lys Lys Gly Pro Trp Thr
1 5 10 15
Pro Glu Glu Asp Gln Ile Leu Ile Ser Tyr Ile Asn Lys His Gly His
20 25 30
Gly Asn Trp Arg Ala Leu Pro Lys Gln Ala Gly Leu Met Arg Cys Gly
35 40 45
Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp Ile Lys
50 55 60
Arg Gly Asn Phe Ser Leu Lys Glu Glu Gln Thr Ile Ile His Leu His
65 70 75 80
Gln Ile Leu Gly Asn Arg Trp Ser Ala Ile Ala Ser His Leu Pro Gly
85 90 95
Arg Thr Asp Asn Glu Ile Lys Asn Val Trp Asn Thr His Leu Lys Lys
100 105 110
Arg Leu Leu Gln Ile Gly Val Asp Pro Val Thr His Ala Pro Arg Gly
115 120 125
Tyr Asn Val Ser Asn Cys Tyr Thr Ala Val Asn Ile Arg Asp His His
130 135 140
Gly Glu Gln Ala Asp His Gln Leu Gln Ser His Val Cys Val Ser
145 150 155

<210> 2162
<211> 49
<212> PRT
<213> Pinus radiata

<400> 2162

Thr Pro Glu Glu Asp Arg Ile Leu Ile Ser Tyr Ile Lys Arg Asn Gly
1 5 10 15
His Gly Lys Trp Leu Ala Leu Pro Lys Gln Ala Gly Leu Ser Arg Cys
20 25 30
Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asn Ile
35 40 45
Lys

<210> 2163
<211> 78

<212> PRT
<213> Pinus radiata

<400> 2163
Met Gly Thr Gly Glu Glu Ala Thr Pro Thr Lys Pro Ala Ala Lys Pro
1 5 10 15
Ser Ser Ser Ser Gln Glu Thr Pro Thr Thr Pro Val Tyr Pro Asp Trp
20 25 30
Ala Ala Ala Phe Gln Ala Tyr Tyr Gly Pro Gly Ala Thr Pro Pro Pro
35 40 45
Pro Ala Phe Phe Ala Ser Thr Val Gly Ser Ala Pro Thr Pro His Pro
50 55 60
Tyr Met Trp Gly Gly Gln Pro Leu Met Pro Pro Tyr Gly Thr
65 70 75

<210> 2164
<211> 113
<212> PRT
<213> Pinus radiata

<400> 2164
Met Gly Arg Gly Lys Ile Glu Ile Lys Lys Ile Asp Asp Val Thr Ser
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Lys Met Gly Ile Phe Lys Lys Ala
20 25 30
His Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Leu Ile Phe
35 40 45
Ser Asn Thr Gly Arg Leu Tyr Asp Tyr Ala Ser Ser Arg Cys Met Glu
50 55 60
Arg Thr Ile Glu Arg Tyr Glu Lys Cys Thr Lys Ala Ile Asn Cys Pro
65 70 75 80
Thr Ser Asp Pro Ile Val Glu Asn Lys Ser Pro Ile Gln Glu Gly Ile
85 90 95
Glu Ile Leu Arg Gln Lys Leu Arg Ala Leu Gln Arg Leu Gln Arg Asn
100 105 110
Leu

<210> 2165
<211> 107
<212> PRT
<213> Pinus radiata

<400> 2165
Thr Lys Ala Ala Ile Lys Arg Leu Gln Ser Gln Ile Met Val Ala Phe
1 5 10 15
Gln Ala Val Asp Thr Thr Ser Ala Ala Ile Leu Lys Leu Arg Glu Asp
20 25 30
Glu Leu Tyr Pro Gln Leu Val Glu Leu Ser Lys Gly Leu Met Gln Met
35 40 45
Trp Arg Ala Met Tyr Glu Cys His Gln Val Gln Asn His Ile Val Gln
50 55 60
Gln Val Arg His Leu Gly Asn Leu Ala Ser Ala Glu Ala Thr Ser Ser
65 70 75 80
Tyr His Gln Gln Ala Thr Ile Gln Leu Glu Ala Gln Val Thr Ala Trp
85 90 95
Tyr Asp Ser Phe Cys Arg Met Ile Thr Ser Gln

100 105

<210> 2166
<211> 38
<212> PRT
<213> Pinus radiata

<400> 2166
Met Gly Ala Pro Lys Gln Lys Trp Thr Ser Glu Glu Glu Gly Ala Leu
1 5 10 15
Arg Ala Gly Val Glu Lys Tyr Gly Ala Gly Lys Trp Gln Thr Ile Leu
20 25 30
Lys Asp Pro Glu Phe Ala
35

<210> 2167
<211> 158
<212> PRT
<213> Pinus radiata

<400> 2167
Ser Gly His Met Asp Gly Gly Ser Gly Glu Asp Gln Asp Ala Ala Asp
1 5 10 15
Gln Asp His Asp His Asp His Asp His Asp His Glu Gln Gln Gln Thr
20 25 30
Arg Arg Lys Arg Tyr His Arg His Thr Ala Arg Gln Ile Gln Glu Met
35 40 45
Glu Ala Leu Phe Lys Glu Cys Pro His Pro Asp Asp Lys Gln Arg Gln
50 55 60
Arg Leu Ser Ile Glu Leu Gly Leu Lys Pro Arg Gln Val Lys Phe Trp
65 70 75 80
Phe Gln Asn Arg Arg Thr Gln Met Lys Ala Gln Gln Asp Arg Ser Asp
85 90 95
Asn Ala Ile Leu Arg Ala Glu Asn Glu Asn Leu Arg Asn Glu Asn Val
100 105 110
Ala Leu Arg Glu Ala Ile Lys Asn Gly Ala Cys Pro Asn Cys Gly Gly
115 120 125
Ser Thr Ser Leu Gly Glu Met Pro Gly Phe Asp Glu His His Phe Arg
130 135 140
Ile Glu Asn Thr Arg Leu Lys Glu Glu Leu Asp Arg Val Ser
145 150 155

<210> 2168
<211> 122
<212> PRT
<213> Pinus radiata

<400> 2168
Met Gly Cys Thr Gln Gly Gln Arg Gln Gly Glu Trp Glu Gly Lys Gly
1 5 10 15
Val Pro Ser Asn Ser Ser Arg Arg Ser Leu Arg Lys Gly Leu Trp Ser
20 25 30
Pro Asp Glu Asp Ile Glu Leu Thr Thr Tyr Ile Met Arg Lys Gly Leu
35 40 45
Met Gly Cys Trp Asn Tyr Ile Ala Lys Gln Ala Gly Leu Gln Arg Cys
50 55 60
Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Gly Leu

65 70 75 80
Lys Arg Cys Ala Ile Ser Pro Gln Glu Glu Arg Leu Ile Ile Gln Leu
85 90 95
Gln Ser Ser Leu Gly Asn Arg Trp Ser Gln Ile Ala Ala His Leu Pro
100 105 110
Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr
115 120

<210> 2169
<211> 101
<212> PRT
<213> Pinus radiata

<400> 2169
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Gln Gln Glu Asp Thr Arg Leu Val Ala His Ile Arg Ala His
20 25 30
Gly Gln Gly Gly Trp Ser Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Gln Arg Trp Ile Asn Tyr Leu His Pro Asp
50 55 60
Leu Lys Arg Ser Asn Phe Ser Glu Glu Glu Asp Glu Leu Ile Val Arg
65 70 75 80
Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
85 90 95
Pro Gly Arg Thr Asp
100

<210> 2170
<211> 133
<212> PRT
<213> Pinus radiata

<400> 2170
Arg Leu Leu Pro Gly Arg Thr Asp Asn Ala Ile Lys Asn His Trp Asn
1 5 10 15
Ser Thr Leu Arg Arg Arg Tyr His Gly Glu Lys Asp Gln Ser Asn Gly
20 25 30
Leu Ala Val Asn Leu Glu Ser Ala Ala Glu Asp Lys Glu Thr Met Thr
35 40 45
Pro Met Thr Pro Val Thr Ala Thr Ala Thr Ala Thr Ala Thr Ala Met
50 55 60
Pro Val Ala Leu Val Phe Pro Thr Ala Ala Asp Asn Val Arg Lys Arg
65 70 75 80
Ser Asn Ser Ser Cys Ser Ala Asn Asp Asn Pro Gly Asp Ala Glu Val
85 90 95
Glu Ser Cys Arg Leu Lys Arg Leu Asn Phe Ser Glu Ser Pro Ser Ser
100 105 110
Ser Glu Asn Ile Asn Asn Asn Asn Asn Asn Glu Glu Ala Val Ser Gly
115 120 125
His Cys Asn Ser Ala
130

<210> 2171
<211> 120
<212> PRT

<213> Pinus radiata

<400> 2171

Met Arg Cys Lys Thr Gly Gln Ala Gln Gly Val Leu Glu Val Glu Gly
1   5   10   15
Thr His Pro Ala Pro Ser Lys Pro Lys Leu Arg Lys Gly Leu Trp Ser
            20   25   30
Pro Val Glu Asp Asn Gln Leu Thr Asn Tyr Ile Leu Arg Arg Gly Leu
        35   40   45
Val Gly Cys Trp Asn Tyr Val Ala Lys Gln Ala Gly Leu Gln Arg Thr
    50   55   60
Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Gly Leu
65   70   75   80
Lys Arg His Pro Ile Ser Arg Gln Glu Glu Gln Leu Ile Ile Glu Leu
                85   90   95
Gln Ser Ile Leu Gly Asn Arg Trp Ser Gln Ile Ala Ala Gln Leu Pro
            100   105   110
Gly Arg Thr Asp Ile Glu Ile Lys
        115   120

<210> 2172
<211> 155
<212> PRT
<213> Pinus radiata

<400> 2172

Gln Gln Leu Glu Ser Ser Arg Ile Lys Leu Lys Gln Ile Glu Gln Glu
1   5   10   15
Leu Glu Arg Val Lys Gln Gln Gly Ile Ser Ile Asn Gly His Leu Gly
            20   25   30
Asp His Asn Gly Ser Gly Ala Ala Ala Phe Asp Met Glu Tyr Gly Arg
        35   40   45
Trp Val Glu Glu Gln Asn Arg Gln Ala Arg Glu Leu Arg Ala Ser Leu
    50   55   60
Gln Ala His Leu Thr Asp Ser Glu Leu Cys Val Leu Val Asp Asn Ala
65   70   75   80
Ile Ala His Tyr Asp Glu Leu Phe Arg Met Lys Gly Ala Ala Ser Lys
                85   90   95
Leu Asp Val Phe His Leu Met Ser Gly Met Trp Lys Thr Pro Thr Glu
            100   105   110
Arg Cys Phe Met Trp Met Gly Gly Phe Arg Pro Ser Glu Leu Leu Lys
        115   120   125
Ile Leu Thr Pro Gln Ile Glu Pro Leu Thr Glu Gln Gln Ser Phe Ala
    130   135   140
Val Ser Ser Leu Lys Leu Ser Ser Gln Gln Ala
145   150   155

<210> 2173
<211> 63
<212> PRT
<213> Pinus radiata

<400> 2173

Met Val Arg Gly Lys Ile Gln Met Lys Arg Ile Glu Asn Thr Ala Ser
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
            20   25   30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Met Ile Phe
35 40 45
Ser Pro Gly Gly Lys Leu Tyr Glu Phe Ala Asn Thr Ser Met Glu
50 55 60

<210> 2174
<211> 76
<212> PRT
<213> Pinus radiata

<400> 2174
Arg Ala Arg Lys Thr Glu Ile Leu Val Thr Glu Ile Glu Gln Leu Gln
1 5 10 15
Arg Lys Glu Trp Ile Leu Ser Glu Glu Asn Ala Phe Leu Gly Lys Lys
20 25 30
Phe Val His Pro His Ser Val Ser Lys Thr Pro Gly Ser Glu Ser Gly
35 40 45
Ser Ile Gln Asn Ser Glu Val Glu Thr Gln Leu Val Met Arg Pro Pro
50 55 60
Cys Thr Asn Ala His Phe Leu Ile Asn Ser Ser His
65 70 75

<210> 2175
<211> 161
<212> PRT
<213> Eucalyptus grandis

<400> 2175
Arg Glu Ser Ala Asn Cys Ala Ser Arg Val Ala Asp Arg Arg Glu Asn
1 5 10 15
Arg Arg Arg Arg Asp Met Gly Asn Gln Lys Leu Lys Trp Thr Lys Glu
20 25 30
Glu Glu Glu Ala Leu Leu Ala Gly Ile Ala Lys His Gly Ala Gly Lys
35 40 45
Trp Lys Asn Ile Leu Lys Asp Pro Glu Phe Ala Pro Ala Leu Val Asn
50 55 60
Arg Ser Asn Ile Asp Leu Lys Asp Lys Trp Arg Asn Leu Ser Val Gly
65 70 75 80
Thr Ser Gly Gln Gly Ser Arg Asp Lys Gln Arg Leu Ser Lys Val Lys
85 90 95
Ser Leu Met Ala Ala Pro Gln Ser Ser Thr Val Pro Leu Asn Pro Gln
100 105 110
Ala His Ala Ala Ser Thr Asp Val Ala Leu Val Asn Ser Ser Asn Ser
115 120 125
Phe Gln Asp Gly Lys Asn Tyr Ser Leu Trp Val Ser Val Leu Leu Phe
130 135 140
Leu Phe Ser Asn Gly Asn Leu Phe Tyr Phe Tyr Pro Leu Leu Ser Phe
145 150 155 160
Leu

<210> 2176
<211> 31
<212> PRT
<213> Eucalyptus grandis

<400> 2176

Thr Arg Gln Ser Ala Arg Ala Leu Leu Ala Ile His Asp Tyr Phe Ser
1 5 10 15
Arg Leu Arg Ala Leu Ser Ser Leu Trp Leu Ala Arg Pro Arg Glu
20 25 30

<210> 2177
<211> 191
<212> PRT
<213> Eucalyptus grandis

<400> 2177
Met Ala Ser Arg Lys Glu Val Asp Arg Ile Lys Gly Pro Trp Ser Pro
1 5 10 15
Glu Glu Asp Glu Ala Leu Arg Leu Leu Val Gln Lys His Gly Pro Arg
20 25 30
Asn Trp Ser Leu Ile Ser Lys Ser Ile Pro Gly Arg Ser Gly Lys Ser
35 40 45
Cys Arg Leu Arg Trp Cys Asn Gln Leu Ser Pro Gln Val Glu His Arg
50 55 60
Ala Phe Thr Pro Glu Glu Asp Asp Ile Ile Val Arg Ala His Ala Arg
65 70 75 80
Phe Gly Asn Lys Trp Ala Thr Ile Ala Arg Leu Leu Ser Gly Arg Thr
85 90 95
Asp Asn Ala Ile Lys Asn His Trp Asn Ser Thr Leu Lys Arg Lys Cys
100 105 110
Ser Pro Pro Leu Ser Pro Leu Ala Glu Glu Gly Asn Asn Arg Ala Phe
115 120 125
Asp Ala Ala Ala Gly Tyr Asp Gly Asp Leu Ser Pro Arg Glu Arg Pro
130 135 140
Ala Lys Arg Ser Ala Ser Ala Gly Pro Cys Leu Ser Pro Gly Ser Pro
145 150 155 160
Ser Gly Ser Gly Met Ser Asp Ser Ser Val His Phe Val Tyr Arg Pro
165 170 175
Val Ala Lys Thr Gly Pro Val Val Pro Pro Thr Val Glu Ala Thr
180 185 190

<210> 2178
<211> 113
<212> PRT
<213> Eucalyptus grandis

<400> 2178
Gln Val Ala Gln Leu Arg Val Glu Asn Ser Thr Leu Leu Lys Arg Leu
1 5 10 15
Ser Asp Ile Ser Gln Lys Tyr Asn Val Ala Ala Val Asp Asn Arg Val
20 25 30
Leu Lys Ala Asp Val Glu Thr Leu Arg Ala Lys Val Lys Met Ala Glu
35 40 45
Glu Thr Val Lys Arg Val Thr Gly Leu Asn Pro Met Leu His Val Met
50 55 60
Ser Asp Met Ser Ser Val Gly Val Pro Pro Phe Asp Gly Ser Pro Ser
65 70 75 80
Asp Thr Ser Ala Asp Ala Ala Val Pro Val Arg Asp Asp Pro Lys His
85 90 95
Gln Phe Tyr Gln Thr Asn Ser Ser Asn Pro Ala Ser Ser Ala Asp Asp
100 105 110
Met

<210> 2179
<211> 314
<212> PRT
<213> Eucalyptus grandis

<400> 2179

```
Met Lys Arg Leu Gly Ser Ser Asp Ser Leu Gly Ala Leu Met Ser Ile
 1               5                  10                  15
Cys Pro Pro Ser Glu Glu Leu Gln His Ser Pro Arg Asn Gly Asn Pro
            20                  25                  30
Ile Tyr His Ser Arg Asp Leu Gln Ser Met Leu Glu Leu Gly Leu Asp
        35                  40                  45
Glu Glu Gly Cys Val Glu Asp Gln Ser Ala Gly Gly Gly Gly His Val
    50                  55                  60
Gly Gly Glu Lys Lys Arg Arg Leu Ser Ile Asp Gln Val Lys Ala Leu
65                  70                  75                  80
Glu Lys Asn Phe Glu Val Glu Asn Lys Leu Glu Pro Glu Arg Lys Val
                85                  90                  95
Lys Leu Ala Gln Glu Leu Gly Leu Gln Pro Arg Gln Val Ala Val Trp
            100                 105                 110
Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Leu Glu Arg Asp
        115                 120                 125
Tyr Gly Val Leu Lys Ser Ser Tyr Glu Ala Leu Lys Leu Ser Tyr Asp
    130                 135                 140
Ala Leu Lys His Asp Asn Glu Ala Leu His Lys Glu Ile Lys Glu Leu
145                 150                 155                 160
Lys Ser Lys Leu Arg Glu Glu Asp Asp Asn Pro Glu Ser Asn Leu Ser
                165                 170                 175
Val Lys Glu Glu Val Ile Ile Pro Gly His Asp Val Ser Asp Lys Ile
            180                 185                 190
Arg Ala Ala Asp Asp Gly Asp Asp Asp Thr Lys Arg Ser Pro Pro Pro
        195                 200                 205
Pro Ile Thr Ala Pro Pro Arg Glu Leu Ser Phe Asn Asn Gly Gly Leu
    210                 215                 220
Lys Asp Gly Ser Ser Asp Ser Asp Ser Ser Ala Ile Val Asn Glu Glu
225                 230                 235                 240
Asn Ala Ala Thr Ser Ser Ser Ser Pro Asn Pro Ala Val Gln Ser His
                245                 250                 255
Gly Gly Phe Leu Lys Phe Met Gly Ser Ser Ser Ser Ser Ala Ser Pro
            260                 265                 270
Pro Pro Ser Pro Pro Ala Ser Phe Gly Gly Cys Phe Ser Phe Gln Phe
        275                 280                 285
Gln Arg Ala Tyr Gln Pro Gln Pro Gln Pro Pro His His His His His
    290                 295                 300
His Ser Pro Tyr Val Lys Met Glu Glu His
305                 310
```

<210> 2180
<211> 94
<212> PRT
<213> Eucalyptus grandis

<400> 2180

```
Glu Arg Tyr Lys Ser Ala Cys Ser Asp Ser Ser His Pro Gln Ser Val
 1               5                  10                  15
```

Ser Asp Val Asn Thr Gln Phe Tyr Gln Gln Glu Ala Ser Lys Leu Arg
20 25 30
Arg Gln Ile Arg Glu Ile Gln Val Ser Asp Arg His Leu Leu Gly Glu
35 40 45
Gly Ile Ser Asp Leu Ser Phe Lys Asp Leu Lys Asn Leu Glu Ser Lys
50 55 60
Leu Glu Lys Ser Ile Ser Arg Val Arg Ser Lys Lys Asn Glu Met Leu
65 70 75 80
Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Gly Leu Val Gln
85 90

<210> 2181
<211> 83
<212> PRT
<213> Eucalyptus grandis

<400> 2181
Glu Asn Lys Ile Asn Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly
1 5 10 15
Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val
20 25 30
Ala Leu Ile Ile Phe Ser Thr Arg Gly Lys Leu Tyr Glu Phe Cys Ser
35 40 45
Ser Pro Ser Met Leu Lys Thr Leu Asp Arg Tyr Gln Lys Cys Ser Tyr
50 55 60
Gly Ser Val Glu Val Asn Lys Pro Ser Lys Glu Leu Glu Asn Ala Tyr
65 70 75 80
Arg Glu Tyr

<210> 2182
<211> 108
<212> PRT
<213> Eucalyptus grandis

<400> 2182
Met Gly Arg Gly Lys Ile Glu Ile Gln Lys Ile Glu Asn Asp Thr Asn
1 5 10 15
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Ile Phe Lys Lys Ala
20 25 30
His Glu Leu Thr Val Leu Cys Asp Ala Arg Val Ser Ile Leu Met Leu
35 40 45
Ser Gly Asn Lys Lys Leu His Glu Tyr Ile Ser Pro Thr Thr Thr Thr
50 55 60
Lys Arg Met Ile Asp Asp Tyr Gln Lys Ala Leu Gly Ile Asp Leu Trp
65 70 75 80
Thr Thr His Tyr Asp Arg Met Gln Glu Glu Leu Arg Lys Leu Lys Glu
85 90 95
Val Asn Asn Asn Phe Arg Lys Glu Ile Arg Gln Ile
100 105

<210> 2183
<211> 40
<212> PRT
<213> Eucalyptus grandis

<400> 2183

Arg Asn Leu Met Gly Glu Asp Leu Gly Thr Leu Asn Ser Lys Glu Leu
1   5   10   15
Glu Gln Leu Glu Arg Gln Leu Glu Ala Ser Leu Lys His Ile Arg Ser
            20   25   30
Thr Lys Thr Gln Cys Met Leu Asp
        35   40

<210> 2184
<211> 161
<212> PRT
<213> Eucalyptus grandis

<400> 2184
Met Val Phe Pro Thr Gln Ala Thr Pro Glu Glu Ser Pro Gln Arg Lys
1   5   10   15
Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
            20   25   30
Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
        35   40   45
Tyr Glu Leu Ser Val Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
    50   55   60
Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asp Ser Val Lys Ala
65   70   75   80
Thr Ile Glu Arg Tyr Lys Lys Ala Cys Ser Asp Ser Ser Ser Ser Gly
                85   90   95
Ser Val Ser Glu Ala Asn Val Gln Phe Tyr Gln Gln Glu Ser Ala Lys
            100   105   110
Leu Gln Gln Gln Ile Asn Asn Met Gln Asn Asn Asn Arg Gln Leu Val
        115   120   125
Gly Asp Ser Ile Ala Gly Met Asn Met Lys Asp Met Lys Thr Thr Glu
    130   135   140
Gln Lys Leu Glu Lys Ala Ile Ala Lys Ile Arg Ala Lys Lys Asn Ala
145   150   155   160
Ile

<210> 2185
<211> 92
<212> PRT
<213> Eucalyptus grandis

<400> 2185
Gln His Lys Glu Gln Met Leu Val Glu Ala Asn Arg Glu Leu Arg Lys
1   5   10   15
Lys Leu Glu Glu Ser Asn Thr Arg Ile Pro Leu Arg Leu Gly Trp Glu
            20   25   30
Ala Glu Asp His Asn Asn Ile Ser Tyr Ser Arg Leu Pro Met Gln Ser
        35   40   45
Gln Gly Leu Ile Phe Gln Pro Leu Gly Gly Asn Pro Thr Leu Gln Ile
    50   55   60
Gly Tyr Asn Pro Ala Gly Ser Asn Glu Leu Asn Val Ser Ala Ala Asp
65   70   75   80
Gln His Pro Asn Gly Phe Ile Pro Gly Trp Met Leu
                85   90

<210> 2186
<211> 113

<212> PRT
<213> Eucalyptus grandis

<400> 2186
Gly Ser Lys Glu Leu Glu Ser Leu Glu Arg Gln Leu Asp Gly Ser Leu
1 5 10 15
Lys Gln Ile Arg Ser Arg Arg Thr Gln Tyr Met Leu Asp Lys Leu Thr
20 25 30
Asp Leu Gln His Arg Glu Gln Leu Leu His Glu Ala Asn Arg Thr Leu
35 40 45
Asn Gln Arg Leu Met Glu Gly Tyr Gln Val Asn Ala Leu Gln Leu Asn
50 55 60
Gln His Ala Glu Glu Val Gly Gly Tyr Gly His Pro Pro Pro Pro Pro
65 70 75 80
Leu Pro Pro Gln Pro Leu Ala Gln Pro His Ser Glu Ala Phe Phe Asn
85 90 95
Pro Leu Glu Cys Glu Pro Thr Leu Gln Met Gly Tyr Gln Pro Asp Pro
100 105 110
Val

<210> 2187
<211> 309
<212> PRT
<213> Eucalyptus grandis

<400> 2187
Met Thr Arg Arg Cys Ser His Cys Cys Asn Lys Gly His Asn Ser Arg
1 5 10 15
Thr Cys Pro Val Arg Gly Gly Gly Gly Asp Gly Gly Gly Ala Ala Ala
20 25 30
Ala Pro Ser Ser Ser Ser Pro Ser Thr Ser Ser Ser Gly Ala Ala Ala
35 40 45
Ala Ala Ala Ala Ser Ala Ser Gly Gly Gly Val Lys Leu Phe Gly Val
50 55 60
Arg Leu Thr Asp Gly Ser Ile Met Lys Lys Ser Ala Ser Val Gly Cys
65 70 75 80
Leu Ser Ala Ala His Tyr His Ser Ser Ser Ser Ala Ala Ala Ser Pro
85 90 95
Asn Pro Gly Ser Ser Pro Ile Asp Gly Ser Asp Gly Tyr Leu Ser Asp
100 105 110
Asp Pro Ala Pro Gly Ser Arg Ser Ser Asn Arg Arg Val Glu Arg Lys
115 120 125
Lys Gly Asn Pro Trp Thr Glu Glu Glu His Arg Arg Phe Leu Ile Gly
130 135 140
Leu Gln Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asp Phe
145 150 155 160
Val Thr Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr
165 170 175
Tyr Ile Arg Gln Ser Asn Ala Gly Arg Arg Lys Arg Arg Ser Ser Leu
180 185 190
Phe Asp Met Ala Pro Asp Met Ala Thr Ala Asp Gln Pro Ser His Pro
195 200 205
Glu Glu Thr Phe Leu Pro Pro Leu Val Arg Leu Asn Asp Asp Thr Asn
210 215 220
Ser Thr Thr Ser Thr Ser Met Gly Leu Asp Leu Glu Arg Thr Pro Met
225 230 235 240

Glu Thr Ser His Pro Glu Thr Ser Glu Gly Gly Gly Asp Val Ala Met
245 250 255
Glu Ser Ile Asp Gln Val Pro Leu Val Pro Cys Tyr Phe Pro Tyr Tyr
260 265 270
Leu Pro Leu Pro Phe Pro Met Trp Pro Pro Asn Met Ala Pro Pro Glu
275 280 285
Asp Gly Arg Val Val Glu Thr Ser His His Arg Val Leu Lys Pro Ile
290 295 300
Pro Val Ile Pro Lys
305

<210> 2188
<211> 123
<212> PRT
<213> Eucalyptus grandis

<400> 2188
Trp Asp Thr Ser Ser Ser Pro Pro Thr Leu Leu Glu Ser Val Asp Asn
1 5 10 15
Phe Ile Leu Ser Pro Ala Arg Thr Gly Lys Ala Glu Ser Glu Cys Leu
20 25 30
Ser Pro Arg Asn Ser Gly Leu Leu Asp Ala Leu Val His Glu Ser Lys
35 40 45
Thr Met Ser Ser Ala Lys Asn Asn Ser Pro Glu Lys Ser Thr Asn Ser
50 55 60
Ser Ala Leu Thr Pro Gly Asp Ile Ser Ser Ser Thr Leu Asp Ile Cys
65 70 75 80
Lys Ser Glu Trp Glu Glu Tyr Gly Asp Pro Ile Ser Pro Pro Gly His
85 90 95
Ser Ala Thr Ser Val Phe Asn Gly Cys Thr Pro Leu Ser Thr Ser Gly
100 105 110
Ser Ser Leu Asp Glu Gln Pro Tyr Pro Asp Thr
115 120

<210> 2189
<211> 136
<212> PRT
<213> Eucalyptus grandis

<400> 2189
His Ile Arg Arg Lys Leu Leu Asn Arg Gly Ile Asp Pro Ala Thr His
1 5 10 15
Arg Pro Leu Asn Glu Pro Ala Gln Asp Ala Thr Thr Ile Ser Phe Ala
20 25 30
Ala Ala Pro Ser Lys Gln Glu Pro Arg Asp Asp Ala Ile Ala Ala Ala
35 40 45
Leu Gly Tyr Lys Asn Glu Asn Asn Pro Thr Thr Thr Ala Ala Thr Val
50 55 60
Gln Glu Lys Cys Pro Asp Leu Asn Leu Glu Leu Arg Ile Ser Pro Pro
65 70 75 80
Cys Gln Gln Gln His Gln Pro Asp Ala Ser Met Gly Met Val Glu Gly
85 90 95
Asn His Cys Phe Ala Cys Ser Leu Gly Leu Gln Asn Ser Lys Glu Cys
100 105 110
Ser Cys Arg Arg Gly Ala Ser Gly Gly Ser Ser Ala His Gly Gly Tyr
115 120 125
Asp Phe Leu Gly Leu Lys Thr Ser

130 135

<210> 2190
<211> 109
<212> PRT
<213> Eucalyptus grandis

<400> 2190
Met Glu Phe Pro Ser Glu Phe Ser Glu Ala Ser Ser Gln Lys Arg Ile
1 5 10 15
Gly Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
20 25 30
Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
35 40 45
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
50 55 60
Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Arg Gly
65 70 75 80
Thr Ile Glu Arg Tyr Lys Lys Ala Ser Ser Asp Ser Ser Thr Ser His
85 90 95
Ser Pro Phe Pro Glu Val Glu His Ser Ser Phe Ile Gln
100 105

<210> 2191
<211> 116
<212> PRT
<213> Eucalyptus grandis

<400> 2191
Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Val Leu Cys Asp Val Glu Val Ala Leu Leu Ile Phe
35 40 45
Ser Ser Arg Gly Lys Leu Tyr Glu Phe Gly Ser Ala Gly Pro Ser Gly
50 55 60
Ile Asn Lys Thr Leu Glu Arg Tyr Gln Arg Asp Asn Phe Thr Pro Gln
65 70 75 80
Asp Asn Val Ala Glu His Glu Thr Gln Gln Asn Trp Phe Gln Glu Ile
85 90 95
Ser Lys Leu Lys Ala Lys Tyr Glu Leu Phe Asn Lys Leu Gln Lys His
100 105 110
Leu Leu Gly Lys
115

<210> 2192
<211> 98
<212> PRT
<213> Eucalyptus grandis

<400> 2192
Met Ala Arg Gly Lys Val Gln Met Lys Arg Ile Glu Asn Pro Val His
1 5 10 15
Arg Gln Val Thr Phe Cys Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
20 25 30
Lys Glu Leu Ser Val Leu Cys Asp Ala Asp Ile Gly Leu Phe Ile Phe

35 40 45
Ser Pro His Gly Lys Leu Tyr Glu Leu Ala Thr Lys Gly Thr Met Lys
50 55 60
Gly Leu Ile Glu Arg Tyr Met Lys Thr Thr Gln Ser Gln Ala Ala Leu
65 70 75 80
Thr Glu Glu Ala Thr Pro Ser Gln Pro Leu Asp Ala Lys Glu Glu Ile
85 90 95
Asn Ile

<210> 2193
<211> 198
<212> PRT
<213> Eucalyptus grandis

<400> 2193
Met Gly Arg Gly Lys Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Met
50 55 60
Lys Thr Ile Glu Lys Tyr Gln Lys Cys Ser Tyr Gly Ser Leu Glu Thr
65 70 75 80
Asn Cys Ser Ile Asn Glu Met Gln Asn Ser Tyr Gln Asp Tyr Leu Lys
85 90 95
Leu Lys Thr Arg Val Glu Val Leu Gln Arg Ser Gln Arg Asn Leu Leu
100 105 110
Gly Glu Glu Leu Gly Pro Leu Asn Ser Lys Glu Leu Glu Gln Leu Glu
115 120 125
His Gln Leu Glu Asn Ser Leu Lys Gln Ile Arg Ser Ala Lys Thr Gln
130 135 140
Phe Met Phe Asp Gln Leu Ala His Leu Gln His Lys Glu Gln Met Leu
145 150 155 160
Val Glu Ala Asn Arg Glu Leu Arg Lys Lys Leu Glu Glu Ser Asn Thr
165 170 175
Arg Ile Pro Leu Arg Leu Gly Trp Glu Ala Glu Asp His Asn Asn Ile
180 185 190
Ser Tyr Ser Arg Leu Pro
195

<210> 2194
<211> 153
<212> PRT
<213> Eucalyptus grandis

<400> 2194
Met Arg Lys Pro Cys Cys Asp Lys Arg Asp Thr Asn Lys Gly Ala Trp
1 5 10 15
Ser Lys Gln Glu Asp Gln Lys Leu Ile Asp Tyr Ile Gln Lys His Gly
20 25 30
Glu Gly Ser Trp Arg Thr Leu Pro Gln Ala Ala Gly Leu Leu Arg Cys
35 40 45
Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu
50 55 60

Lys Arg Gly Asn Phe Ala Glu Asp Glu Glu Asp Leu Ile Ile Lys Leu
65 70 75 80
His Ala Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Leu Pro
85 90 95
Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr Trp Asn Ser His Leu Arg
100 105 110
Arg Lys Leu Leu Lys Met Gly Ile Asp Pro Asn Asn His Arg Leu Asn
115 120 125
Gln Asn Leu Pro Arg Ser Gln Thr Arg Met Pro Arg Gln His Phe Leu
130 135 140
Ile Gln Tyr Glu Asp His Met Thr Leu
145 150

<210> 2195
<211> 104
<212> PRT
<213> Eucalyptus grandis

<400> 2195
Glu Ala Leu Gln Gln Ser Leu Val Asp Thr Leu Ser Ser Thr Thr Leu
1 5 10 15
Ser Pro Thr Gly Ser Gly Asn Val Ala Glu Tyr Met Gly Gln Met Ala
20 25 30
Ile Ala Met Gly Lys Leu Ala Thr Leu Glu Asn Phe Val His Gln Ala
35 40 45
Asp Leu Leu Arg Gln Gln Thr Leu Gln Gln Met His Arg Ile Leu Thr
50 55 60
Thr Arg Gln Ala Ala Arg Ala Leu Leu Val Ile Asn Asp Tyr Ile Ser
65 70 75 80
Arg Leu Arg Ala Leu Ser Ser Leu Trp Leu Ala Arg Pro Arg Thr Glu
85 90 95
Asn Ile Cys Ser Ala Lys Leu Phe
100

<210> 2196
<211> 25
<212> PRT
<213> Eucalyptus grandis

<400> 2196
Asp Pro Leu Met Lys Pro Trp Gln Ile Pro Cys Pro Ile Gln Pro Ile
1 5 10 15
Ile Ala Ser Ala Asp Leu Phe Glu Cys
20 25

<210> 2197
<211> 87
<212> PRT
<213> Eucalyptus grandis

<400> 2197
Met Gly Arg Arg Lys Ile Glu Ile Gln Pro Ile Thr His Glu Arg Asn
1 5 10 15
Arg Ser Val Thr Phe Leu Lys Arg Lys Asn Gly Leu Phe Lys Lys Ala
20 25 30
Tyr Glu Leu Gly Val Leu Cys Ser Val Asp Val Ala Val Ile Ile Phe
35 40 45

Glu Asp Arg Pro Gly His Ser Pro Lys Leu Tyr Gln Tyr Ser Ser Arg
    50   55   60
Gly Ile Gln Asp Ile Val Gln Arg His Leu His His Asp Gly Glu Thr
65   70   75   80
Asp Asn Arg Gly Pro Gly Asp
                85

<210> 2198
<211> 107
<212> PRT
<213> Eucalyptus grandis

<400> 2198
Arg Asp Arg Thr Phe Leu Val Gly Leu Glu Lys Leu Gly Lys Gly Asp
 1   5   10   15
Trp Arg Gly Ile Ser Arg Ser Tyr Val Thr Thr Arg Thr Pro Ala Gln
            20   25   30
Val Ala Ser His Ala Gln Lys Tyr Phe Leu Arg Gln Val Ser Phe Asn
        35   40   45
Lys Lys Lys Arg Arg Ser Ser Leu Phe Asp Met Val Lys Asn Gln Cys
    50   55   60
Ser Tyr Lys Leu Leu Pro Ser Tyr Arg Leu Ser Ser Ile Ser Leu Met
65   70   75   80
Gly Phe Asp Lys Phe Leu Leu Tyr Lys Val Asp Val Lys Thr Ala Ala
                85   90   95
Gly Asp Arg Leu Gly Ser Leu Thr Ala Lys Pro
            100   105

<210> 2199
<211> 107
<212> PRT
<213> Eucalyptus grandis

<400> 2199
Met Thr Leu Glu Glu Phe Leu Val Arg Ala Gly Val Val Arg Glu Asp
 1   5   10   15
Thr Gln Met Met Ala Arg Pro Gly Asp Asn Gly Val His Glu Glu Met
            20   25   30
Ser Gln Phe Thr Ser Asn Gly Leu Ala Ser Ser Ala Ala Ala Gly Asn
        35   40   45
Asp Phe Ile Phe Ser Ser Lys Pro Ala Gly Ser Ser Leu Asp Phe Ile
    50   55   60
Gly Thr Arg Pro Thr Gln Leu Gln Gln Gln Pro Gln Pro Gln Pro Leu
65   70   75   80
Glu Pro Pro Ala Pro Leu Phe Pro Lys Pro Glu Thr Val Ser Phe Ala
                85   90   95
Thr Ser Val His Leu Pro Asn Thr Ala Ser Tyr
            100   105

<210> 2200
<211> 150
<212> PRT
<213> Eucalyptus grandis

<400> 2200
Ala Asn Ala Pro Leu Arg Ile Ala Met Asn Ser Asn Ala Ser Ser Asn
 1   5   10   15

Pro Gln Ser Met Ala Thr Ser Thr Thr Ser Ala Thr Thr Pro Ala Ala
20 25 30
Gly Gly Asp Gly Gly Lys Lys Val Arg Lys Pro Tyr Thr Ile Thr Lys
35 40 45
Ser Arg Glu Ser Trp Thr Glu Glu Glu His Asp Lys Phe Leu Glu Ala
50 55 60
Leu Gln Leu Phe Asp Arg Asp Trp Lys Lys Ile Glu Asp Phe Val Gly
65 70 75 80
Ser Lys Thr Val Ile Gln Ile Arg Ser His Ala Gln Lys Tyr Phe Leu
85 90 95
Lys Val Gln Lys Asn Gly Ala Val Ala His Val Pro Pro Pro Arg Pro
100 105 110
Lys Arg Lys Ala Ala His Pro Tyr Pro Gln Lys Ala Ser Lys Asn Val
115 120 125
Leu Val Pro Leu Gln Ala Ser Met Ala Gln Pro Ser Ser Thr Asn Pro
130 135 140
Ala Phe Thr Ile Thr Pro
145 150

<210> 2201
<211> 171
<212> PRT
<213> Eucalyptus grandis

<400> 2201
Met Gly Arg Ser Pro Cys Cys Glu Ser Glu His Met Asn Lys Gly Ala
1 5 10 15
Trp Ser Lys Glu Glu Asp Glu Arg Leu Ile Ala Tyr Ile Lys Arg His
20 25 30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Asn Phe Ser Asp Glu Glu Asp Glu Leu Ile Ile Thr
65 70 75 80
Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Ala Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Ile
100 105 110
Lys Arg Lys Leu His Ala Arg Gly Ile Asp Pro Gln Thr His Arg Pro
115 120 125
Leu Arg Leu His Gln His Cys Trp Cys Trp Cys Cys Cys His Phe Thr
130 135 140
Leu Ser Val Leu Thr Leu Thr Thr Ala Ala Thr Arg Pro Arg Leu Thr
145 150 155 160
Arg Arg Leu Val Lys Asn Tyr His His His Gln
165 170

<210> 2202
<211> 98
<212> PRT
<213> Eucalyptus grandis

<400> 2202
Met Asn Ser Pro Leu Ala Gln Leu Val Asn Pro Arg Arg Met His Thr
1 5 10 15
Tyr Glu Pro Phe Asp Gln Phe Pro Met Trp Gly Asp Thr Phe Lys Ala

20 25 30
Asp Lys Val Lys Asn Leu Glu Ala Ser Ser Ser Val Ile Val His Ala
35 40 45
Val Asp Asp Gly Leu Asp Lys Lys Phe Glu Tyr Val Ser His Glu Ser
50 55 60
Ala Glu Asn Ser Ser Ser Arg Ser Asp Gln Glu Ala Asn Arg Pro Asp
65 70 75 80
Lys Val Gln Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser
85 90 95
Arg Leu

<210> 2203
<211> 111
<212> PRT
<213> Eucalyptus grandis

<400> 2203
Met Asn Ser Pro Leu Ala Gln Leu Val Asn Pro Arg Arg Met His Thr
1 5 10 15
Tyr Glu Pro Phe Asp Gln Phe Pro Met Trp Gly Asp Thr Phe Lys Ala
20 25 30
Asp Lys Val Lys Asn Leu Glu Ala Ser Ser Ser Val Ile Val His Ala
35 40 45
Val Asp Asp Gly Leu Asp Lys Lys Phe Glu Tyr Val Ser His Glu Ser
50 55 60
Ala Glu Asn Ser Ser Ser Arg Ser Asp Gln Glu Ala Asn Arg Pro Asp
65 70 75 80
Lys Val Gln Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser
85 90 95
Arg Leu Arg Lys Lys Lys Tyr Val Gln Gln Leu Glu Ser Ser Arg
100 105 110

<210> 2204
<211> 162
<212> PRT
<213> Eucalyptus grandis

<400> 2204
Met Ala Ser Ser Ser Ser Val Ala Ser Ala Arg Lys Asp Ala Asp Arg
1 5 10 15
Ile Lys Gly Pro Trp Ser Pro Glu Glu Asp Glu Ala Leu Gln Arg Leu
20 25 30
Val Gln Ser Tyr Gly Pro Arg Asn Trp Ser Leu Ile Ser Lys Ser Ile
35 40 45
Pro Gly Arg Ser Gly Lys Ser Cys Arg Leu Arg Trp Cys Asn Gln Leu
50 55 60
Ser Pro Gln Val Glu His Arg Pro Phe Thr Pro Glu Glu Asp Glu Ala
65 70 75 80
Ile Val Arg Ala His Ala Arg Phe Gly Asn Lys Trp Ala Thr Ile Ala
85 90 95
Arg Leu Leu Asn Gly Arg Thr Asp Asn Ala Val Lys Asn His Trp Asn
100 105 110
Ser Thr Leu Lys Arg Lys Cys Ser Ser Thr Cys Ser Ala Gly Gly Asp
115 120 125
Asp Ala Asp Ala Leu Ala Glu Gln Gln Pro Leu Lys Arg Ser Ala Ser
130 135 140

Leu Gly Thr Pro Thr Gly Gly Asn Asn Ala Val Ser Asp Leu Phe Phe
145 150 155 160
Ser Pro

<210> 2205
<211> 92
<212> PRT
<213> Eucalyptus grandis

<400> 2205
Met Ala Lys Glu Lys Ile Lys Ile Lys Lys Ile Asp Asn Leu Thr Ala
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Arg Gly Leu Ile Lys Lys Ala
20 25 30
Glu Glu Leu Ser Val Leu Cys Asp Ala Asp Val Ser Leu Ile Val Phe
35 40 45
Ser Ala Thr Gly Lys Leu Tyr Asp Phe Ser Ser Ser Arg Gln Met Lys
50 55 60
Gly Glu Asp Leu Glu Gly Leu Asn Val Glu Glu Leu Asp Gln Leu Glu
65 70 75 80
Lys Lys Leu Glu Ala Gly Leu Ser Leu Val Ile Lys
85 90

<210> 2206
<211> 148
<212> PRT
<213> Eucalyptus grandis

<400> 2206
Met Arg Lys Pro Asp Ala Ser Gly Lys Asn Ser Ser Asn Ser Asn Ala
1 5 10 15
Asn Lys Leu Arg Lys Gly Leu Trp Ser Pro Glu Glu Asp Asp Lys Leu
20 25 30
Met Asn Tyr Met Leu Asn Asn Gly Gln Gly Cys Trp Ser Asp Val Ala
35 40 45
Arg Asn Ala Gly Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp
50 55 60
Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Ala Phe Ser Pro Gln
65 70 75 80
Glu Glu Glu Leu Ile Ile His Leu His Ser Ile Leu Gly Asn Arg Trp
85 90 95
Ser Gln Ile Ala Ala Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys
100 105 110
Asn Phe Trp Asn Ser Thr Ile Lys Lys Arg Ser Arg Thr Arg His His
115 120 125
Leu Leu Val Asp Thr Arg Gln Thr Arg Ala Ile Leu Leu Ala Ser Asp
130 135 140
Val Lys Asp Val
145

<210> 2207
<211> 73
<212> PRT
<213> Eucalyptus grandis

<400> 2207

Ala Pro Glu Ile Ala Pro Pro Leu Ala Ala Pro Arg Gly Gly His His
1 5 10 15
Arg Arg Ala His Ser Glu Val Asn Phe Arg Ile Pro Glu Asp Leu Asp
20 25 30
Leu Gly Pro Asp Pro Phe Glu Asn Gly Pro Ser Gly Ser Phe Glu Asp
35 40 45
Phe Gly Ser Glu Asp Asp Leu Leu Ser Thr Tyr Met Asp Ile Glu Lys
50 55 60
Phe Gly Ser Ser Ser Thr Arg Ala Gly
65 70

<210> 2208
<211> 147
<212> PRT
<213> Eucalyptus grandis

<400> 2208
Ser Glu Asn Val Ser Gly Gly Ala Ile Glu Arg Pro Arg Ala Thr Gly
1 5 10 15
Lys Leu Ala Ala Pro Val Asn Ser Pro Ser Met Ser Ser Ser Leu Asp
20 25 30
Leu Lys Asn Ser Cys Met Asp Ala Asn Ala Asn Pro Val Ser Ile Leu
35 40 45
Gln Pro Gly Val Val Pro Pro Glu Ala Trp Leu Gln Val Met Ser Leu
50 55 60
Cys Gly Arg Leu Leu Lys Ile Phe Pro Trp Lys Ala Ser Thr Ser Val
65 70 75 80
Leu Ser Ala Val Ser Ser Ser Cys Ser Leu Gln Tyr His Arg Leu Cys
85 90 95
Phe Ser Lys Phe Ala Leu Cys Lys Asn Glu Arg Glu Leu Lys Arg Glu
100 105 110
Arg Arg Lys Gln Ser Asn Arg Glu Ser Ala Arg Arg Ser Arg Leu Arg
115 120 125
Lys Gln Ala Glu Thr Glu Glu Leu Gly Lys Lys Val Asp Ser Leu Ser
130 135 140
Ala Glu Asn
145

<210> 2209
<211> 115
<212> PRT
<213> Eucalyptus grandis

<400> 2209
Phe Phe Leu Tyr Ile Ile Ser Leu Phe Leu Val Arg Glu Asn Ser Glu
1 5 10 15
Arg Ser Arg Glu Gly Thr Ser Ser Asn Gly Asp Gly Lys Ser Glu Val
20 25 30
Gln Gly Lys Val Ala Gly Glu Val Asp Ala Ala Ser Glu Asn Val Ser
35 40 45
Gly Gly Ala Ile Glu Arg Pro Arg Ala Thr Gly Lys Leu Ala Ala Pro
50 55 60
Val Asn Ser Pro Ser Met Ala Ser Ser Leu Asp Leu Lys Asn Ser Cys
65 70 75 80
Met Asp Ala Asn Ala Asn Pro Val Ser Ile Leu Gln Pro Gly Val Val
85 90 95
Pro Pro Glu Ala Trp Leu Gln Asn Glu Arg Glu Leu Lys Arg Glu Arg

100 105 110
Arg Glu Gln
115

<210> 2210
<211> 192
<212> PRT
<213> Eucalyptus grandis

<400> 2210
Met Gly Arg Gln Pro Cys Cys Asp Lys Ser Gly Val Lys Lys Gly Pro
1 5 10 15
Trp Thr Ala Glu Glu Asp Lys Lys Leu Ile Asn Phe Ile Leu Thr Asn
20 25 30
Gly His Cys Cys Trp Arg Ala Val Pro Lys Leu Ala Gly Leu Arg Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Leu Leu Ser Glu Ala Glu Glu Gln Leu Val Ile Asp
65 70 75 80
Leu His Ala Arg Leu Gly Asn Arg Trp Ser Lys Ile Ala Ala Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn His Trp Asn Thr His Ile
100 105 110
Lys Lys Lys Leu Leu Lys Met Gly Ile Asp Pro Val Thr His Glu Pro
115 120 125
Leu Asn Lys Pro Gln Lys Thr Pro Ser Glu His Asp Pro Glu Ala Ser
130 135 140
Leu Ser Ser Ser Gln Ala Asp Pro Thr Ser Glu Ser Pro Ala Asn Thr
145 150 155 160
His Gln Pro Asn Asn Ala His Ala Asp Glu Val Gln Leu Val Leu Val
165 170 175
Leu Pro Val Gly Leu Val Arg Arg Glu Leu Leu Leu Arg Gln Gly Arg
180 185 190

<210> 2211
<211> 89
<212> PRT
<213> Pinus radiata

<400> 2211
Leu Ser Arg Asn Met Asp Asp Val Phe Val Gln Arg Cys Asn Arg Asn
1 5 10 15
Phe Thr Ala Arg Asp Arg Leu Ile Ser Lys Glu Arg Arg Asn Phe Gly
20 25 30
Trp Val Cys Gly Val Thr Glu Glu Glu Glu Glu Leu Ile Ile Arg Met
35 40 45
Tyr Lys Leu Val Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Leu Pro
50 55 60
Gly Arg Lys Ala Glu Glu Ile Glu Arg Tyr Trp Lys Met Arg Ser Ile
65 70 75 80
Asn Ala Ala Pro Leu Lys Pro Asn Thr
85

<210> 2212
<211> 237
<212> PRT

<213> Pinus radiata

<400> 2212

Met Val Lys Glu Leu Leu Met Met Cys Ser Asn Cys Gly His Ser Gly
1   5   10   15
His Ser Ser Arg Ala Cys Pro Asp Arg Gly Ser Val Lys Leu Phe Gly
            20   25   30
Val Arg Leu Ile Ala Thr Asp Asp Gly Met Ala Cys Met Arg Lys Ser
        35   40   45
Leu Ser Met Gly Asn Leu Gly His Tyr Arg Ser Leu Tyr Asn Val Asn
    50   55   60
His Cys Ser Gly Thr Ser Glu Cys Gly Ser Ala Asp Gln Asp Gly Tyr
65   70   75   80
Leu Ser Asp Gly Phe Val His Ser Ser Ser Asn Ala Arg Glu Arg Lys
                85   90   95
Lys Gly Val Pro Trp Ser Glu Glu Glu His Arg Met Phe Leu Tyr Gly
            100   105   110
Leu Glu Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ser Arg Asn Phe
        115   120   125
Val Thr Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr
    130   135   140
Phe Leu Arg Gln Ser Asn Leu Asn Lys Arg Lys Arg Arg Ser Ser Leu
145   150   155   160
Phe Asp Met Cys Pro His Asp Ser His Val Thr Ser Ser Phe Arg Arg
                165   170   175
Glu Asp Ser Leu Gly Asn Leu Tyr Glu Phe Ser Pro Lys His Ser Ala
            180   185   190
Leu Gly Val Ser Pro Asn Phe Glu Leu Tyr Ser Phe Gly Val Ser Pro
        195   200   205
Thr Leu Ser Leu Gly Arg Ser Leu Gln Pro Val Glu Ala Val Leu Glu
    210   215   220
Glu Lys Ala Ala His Tyr His Pro Val Asn Ser Glu Glu
225   230   235

<210> 2213
<211> 55
<212> PRT
<213> Pinus radiata

<400> 2213

Trp Leu Gln Leu Cys Ser Gly Ile Asp Glu His Ala Ala Gly Phe Cys
1   5   10   15
Ser Gln Leu Val Phe Ala Pro Ile Asp Ala Ser Phe Ala Asp Asp Ala
            20   25   30
Pro Leu Ala Pro Ser Gly Phe Arg Val Ile Pro Leu Glu Ser Gly Ser
        35   40   45
Glu Cys Phe Ser Ser Lys Thr
    50   55

<210> 2214
<211> 119
<212> PRT
<213> Pinus radiata

<400> 2214

Gly Val Leu Lys Phe Pro Cys Phe Asp Leu Ile Thr Met Asn Leu Met
1   5   10   15

Glu Ser Phe Glu Ala Lys Gly Lys Gly Glu Lys Arg Arg Thr Val Arg
20 25 30
Gly Lys Thr Gln Leu Lys Arg Ile Glu Asn Gly Thr Ser Arg Gln Val
35 40 45
Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu
50 55 60
Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser Pro Arg
65 70 75 80
Gly Lys Leu Tyr Glu Phe Ala Asn Pro Ser Met Gln Lys Met Leu Glu
85 90 95
Arg Tyr Glu Lys Cys Ser Glu Gly Ser Asn Pro Thr Ser Thr Ala Lys
100 105 110
Glu Gln Asp Val Gln Cys Leu
115

<210> 2215
<211> 146
<212> PRT
<213> Pinus radiata

<400> 2215
Pro Lys Gln Asp Gln Lys Leu Val Thr Tyr Ile Gln Glu His Gly His
1 5 10 15
Gly Ser Trp Arg Ala Leu Pro Gln Lys Ala Gly Leu Leu Arg Cys Gly
20 25 30
Lys Ser Cys Arg Leu Arg Trp Ala Asn Tyr Leu Arg Pro Asp Ile Lys
35 40 45
Arg Gly Lys Phe Thr Val Gln Glu Glu Gln Thr Ile Ile Gln Leu His
50 55 60
Ala Leu Leu Gly Asn Arg Trp Ser Ala Ile Ala Thr His Leu Pro Lys
65 70 75 80
Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Leu Lys Lys
85 90 95
Arg Leu Leu Gln Met Gly Ile Asp Pro Val Thr His Lys Pro Lys Ser
100 105 110
Glu Ser Ile Met Val Pro Gly Val Gln Ser Ser Asn Gly Ser Ser Asn
115 120 125
Leu Ser His Met Ala Gln Trp Glu Ser Ala Arg Leu Glu Ala Glu Ser
130 135 140
Lys Ala
145

<210> 2216
<211> 106
<212> PRT
<213> Pinus radiata

<400> 2216
Gly Ile Phe Ile Gly Gly Ser Cys Val Gly Gly Asp Gln Ser His Ser
1 5 10 15
Met Ser Gly Asn Gly Ala Leu Ala Phe Asp Met Glu Tyr Ala Arg Trp
20 25 30
Leu Asp Glu His His Arg Gln Ile Asn Glu Leu Arg Ser Ala Val Asn
35 40 45
Ser His Val Gly Asp Asn Glu Leu Arg Gly Leu Val Glu Gly Val Met
50 55 60
Gly His Tyr Asp Glu Ile Phe Arg Leu Lys Thr Val Ala Ser Lys Ala

65 70 75 80
Asp Val Phe His Leu Val Ser Gly Met Trp Lys Thr Pro Ala Glu Arg
85 90 95
Cys Phe Met Trp Met Gly Gly Phe Arg Pro
100 105

<210> 2217
<211> 114
<212> PRT
<213> Pinus radiata

<400> 2217
Asn Arg Arg Ala Arg Thr Lys Trp Lys Arg Asn Glu Val Glu Cys Asp
1 5 10 15
Asn Leu Lys Arg Cys Cys Glu Ser Leu Arg Glu Glu Asn Arg Arg Leu
20 25 30
Glu Lys Glu Val Gln Ser Leu Arg Ala Met Lys Val Pro Gln Ser Pro
35 40 45
Asn Ser Met Pro Leu Ala Ala Ala Thr Leu Ala Met Cys Pro Ala Cys
50 55 60
Glu Gly Leu Ala Ile Lys Asn Arg Gly Ala Ala Thr Ser Ser Thr Ala
65 70 75 80
Lys Ser Gln Gln Ser Leu Leu Thr Ile Met Gly Ile Gly Asp Val Asn
85 90 95
Met Ile Ser Lys Asn Asn Gln Thr Pro Ser Met Gly Met Gly Asp Glu
100 105 110
Met Asn

<210> 2218
<211> 126
<212> PRT
<213> Pinus radiata

<400> 2218
Trp Asn Leu Ile Glu Glu Lys Ile Glu Gly Arg Ser Gly Lys Ser Cys
1 5 10 15
Arg Leu Arg Trp Phe Asn Gln Leu Asp Pro Arg Ile Asn Arg Arg Pro
20 25 30
Phe Thr Glu Glu Asp Glu Glu Lys Leu Leu Ala Ala His Arg Leu Tyr
35 40 45
Gly Asn Lys Trp Ala Met Ile Ala Arg Leu Phe Pro Gly Arg Thr Asp
50 55 60
Asn Ala Val Lys Asn His Trp His Val Ile Met Ala Arg Arg Tyr Arg
65 70 75 80
Glu Gln Ser Ser Ala Phe Gly Arg Arg Lys Leu Pro Gln Val His Arg
85 90 95
Arg Glu Lys Arg Ala Cys Thr Asp Asp Glu Thr Arg Met Gly Ser Ser
100 105 110
Ser Cys Asn Met Trp Val Asp Lys Tyr Ser Ser Leu Lys Ser
115 120 125

<210> 2219
<211> 123
<212> PRT
<213> Pinus radiata

<400> 2219
Leu Ile Ala Tyr Ile Arg Ala Asn Gly Glu Gly Ser Trp Arg Ser Leu
1 5 10 15
Pro Lys Ala Ala Gly Leu Pro Arg Cys Gly Lys Ser Cys Arg Leu Arg
20 25 30
Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Ser Phe Thr Glu
35 40 45
Glu Glu Asp Glu Leu Ile Ile Lys Leu His Ser Val Val Gly Asn Lys
50 55 60
Trp Ser Leu Ile Ala Gly Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile
65 70 75 80
Lys Asn Tyr Trp Asn Thr His Ile Lys Arg Lys Leu Leu Ile Lys Gly
85 90 95
Ile Asp Pro Gln Ser His Arg Pro Leu Gly Gln Pro Tyr Ser Ser Asn
100 105 110
Asn Met Pro Val Ser Arg Leu Phe Leu Thr Ser
115 120

<210> 2220
<211> 176
<212> PRT
<213> Pinus radiata

<400> 2220
Leu Ser Asn Ile Glu Pro Lys Gln Ile Lys Val Trp Phe Gln Asn Arg
1 5 10 15
Arg Cys Arg Glu Lys Gln Arg Lys Glu Ala Ser Arg Leu Gln Thr Val
20 25 30
Asn Arg Lys Leu Thr Ala Met Asn Lys Leu Leu Met Glu Glu Asn Asp
35 40 45
Arg Leu Gln Lys Gln Val Ser Gln Leu Val Tyr Glu Asn Gly Tyr Met
50 55 60
Arg Gln Gln Leu Gln Asn Ala Ser Val Ala Ala Thr Asp Thr Ser Cys
65 70 75 80
Glu Ser Val Val Thr Ser Gly Gln His Gln His Asn Pro Thr Pro Gln
85 90 95
His Pro Pro Arg Asp Ala Ser Pro Ala Gly Leu Leu Ser Ile Ala Glu
100 105 110
Glu Thr Leu Thr Glu Phe Leu Ser Lys Ala Lys Gly Ala Ala Val Asp
115 120 125
Trp Val Gln Met Pro Gly Met Lys Pro Gly Pro Asp Ser Ile Gly Ile
130 135 140
Val Ala Ile Ser Asn Thr Cys Asn Gly Val Ala Ala Arg Ala Cys Gly
145 150 155 160
Leu Val Gly Leu Asp Pro Thr Lys Val Ala Glu Ile Leu Lys Asp Arg
165 170 175

<210> 2221
<211> 119
<212> PRT
<213> Pinus radiata

<400> 2221
Leu Tyr Gln Cys Gln Ala Leu Phe Glu Asn Gly Ala Val Glu Lys Leu
1 5 10 15
Ser Arg Thr Tyr Asn Asp Leu Tyr Asp Asp Leu Lys Glu Glu Ile Leu
20 25 30

Ser Trp Leu Pro Val Glu Cys Val Cys Arg Phe Arg Ser Val Ser Lys
        35   40   45
Gln Trp Asn Asn Leu Leu Ser Ser His Asn Phe Ile Lys Lys Val Trp
    50   55   60
Arg Lys Lys Pro Ala Asn Met Asn Pro Trp Leu Val Leu His Pro Val
65   70   75   80
Asn Ser Ser Tyr Cys Leu Ala Tyr Cys Phe Phe Thr Arg Thr Trp Lys
                85   90   95
Thr Thr Ser Ser Ile Ser Ile Glu Asn Ala Asn Asn Tyr Gly Glu Asn
            100   105   110
Gly Ile Leu Gly Ile Ser Cys
        115

<210> 2222
<211> 124
<212> PRT
<213> Pinus radiata

<400> 2222
Asp Lys Lys Leu Ile Asn Phe Leu Thr Thr His Gly Gln Cys Cys Trp
 1   5   10   15
Arg Thr Val Pro Glu Leu Ala Gly Ile Ser Arg Cys Gly Lys Ser Cys
            20   25   30
Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Val
        35   40   45
Phe Ser Glu Ser Glu Glu Lys Leu Ile Leu Asp Leu His Ser Arg Val
    50   55   60
Gly Asn Arg Trp Ser Lys Ile Ala Ser Phe Leu Pro Gly Arg Thr Asp
65   70   75   80
Asn Glu Leu Lys Asn Tyr Trp Asn Thr His Ile Lys Lys Lys Leu Lys
                85   90   95
Arg Met Gly Leu Asp Pro Gly Asp Ala Gln Ala Ile Ser Glu Thr Leu
            100   105   110
Pro Gln Pro Ala Pro Val Ala Glu Asn Asn Asp Val
        115   120

<210> 2223
<211> 175
<212> PRT
<213> Pinus radiata

<400> 2223
Met Lys Gly Lys Ser Pro Gly His Asp Glu Pro Asp Arg Ile Lys Gly
 1   5   10   15
Pro Trp Ser Pro Glu Glu Asp Ala Ala Leu Gln His Phe Val Gln Lys
            20   25   30
Tyr Gly Pro Arg Asn Trp Ser Leu Ile Ser Lys Ala Ile Pro Gly Arg
        35   40   45
Ser Gly Lys Ser Cys Arg Leu Arg Trp Cys Asn Gln Leu Ser Pro Gln
    50   55   60
Val Glu His Arg Pro Phe Thr Pro Glu Glu Asp Ala Thr Ile Val Arg
65   70   75   80
Ala His Ala Gln His Gly Asn Lys Trp Ala Thr Ile Ala Arg Met Leu
                85   90   95
Ser Gly Arg Thr Asp Asn Ala Ile Lys Asn His Trp Asn Ser Thr Leu
            100   105   110
Arg Arg Arg Cys Gln Gly Gly Gly Ala Leu Val Ile Asp Asp Glu Ile

115 120 125
Ser Ser Gly Ala Asp Gly Phe Arg Lys Arg Asn Leu Ser Glu Asp Ala
130 135 140
Asp Ala Ser Arg Lys Phe Lys Lys Leu Ser Leu Gly Thr Thr Thr Thr
145 150 155 160
Thr Thr Thr Thr Glu Pro Ser Thr Ser Ser Ala Ser Asp Arg Ser
165 170 175

<210> 2224
<211> 103
<212> PRT
<213> Pinus radiata

<400> 2224
Met Ser Ser Arg Ser Cys Ser Leu Cys Gly Leu Asn Gly His Asn Ser
1 5 10 15
Arg Thr Cys Val Gly Ser Gly Val Met Leu Phe Gly Val Arg Leu Thr
20 25 30
Asp Gly Pro Met Arg Lys Ser Ala Ser Met Asn Asn Leu Ser Asn Leu
35 40 45
Ser Gln Tyr Glu His Ser Asp Pro Ala Glu Val Ala Ala Glu Gly Phe
50 55 60
Asp Gly Tyr Val Ser Asp Asp Leu Val His Ser Ser Ser Asn Ala Arg
65 70 75 80
Glu Arg Lys Arg Gly Val Pro Trp Thr Glu Glu Glu His Arg Met Phe
85 90 95
Leu Val Gly Leu Gln Arg Val
100

<210> 2225
<211> 96
<212> PRT
<213> Pinus radiata

<400> 2225
Met Ser Ser Arg Ser Cys Ser Leu Cys Gly Leu Asn Gly His Asn Ser
1 5 10 15
Arg Thr Cys Val Gly Ser Gly Val Met Leu Phe Gly Val Arg Leu Thr
20 25 30
Asp Gly Pro Met Arg Lys Ser Ala Ser Met Asn Asn Leu Ser Asn Leu
35 40 45
Ser Gln Tyr Glu His Ser Asp Pro Ala Glu Val Ala Ala Glu Gly Phe
50 55 60
Asp Gly Tyr Val Ser Asp Asp Leu Val His Ser Ser Ser Asn Ala Arg
65 70 75 80
Glu Arg Lys Arg Gly Val Pro Trp Thr Glu Glu Glu His Arg Met Phe
85 90 95

<210> 2226
<211> 131
<212> PRT
<213> Pinus radiata

<400> 2226
Arg Gly Arg Val Gln Leu Arg Arg Ile Glu Asn Lys Ile Ser Arg Gln
1 5 10 15
Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Met Lys Lys Ala Ala Glu

20 25 30
Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser Asn
35 40 45
Lys Asp Lys Leu Tyr Glu Phe Ala Ser Ser Ser Met Thr Lys Ile Leu
50 55 60
Glu Arg Tyr Arg Lys Arg Ser Asn Leu Ile Gln Asp Ile Gly Lys Asp
65 70 75 80
Pro Gln Asn Ser Asp Ile Glu Leu Thr Arg Leu Lys Glu Glu Val Asp
85 90 95
Arg Leu Gln Arg Ser Arg Arg His Leu Leu Gly Glu Asp Leu His Gln
100 105 110
Leu Gly Ala Thr Asp Leu Gln His Leu Glu Gln Gln Leu Glu Glu Ala
115 120 125
Leu Gln Lys
130

<210> 2227
<211> 49
<212> PRT
<213> Pinus radiata

<400> 2227
Met Pro Ser Ile Met Glu Lys Gln Asn Ser Gly Glu Asp Ser Asp Ser
1 5 10 15
Lys Gly Gln Leu Asp Asn Gly Lys Tyr Val Arg Tyr Thr Asn Glu Gln
20 25 30
Val Glu Thr Leu Glu Arg Ala Tyr Asn Glu Cys Ser Lys Pro Ser Thr
35 40 45
Arg

<210> 2228
<211> 128
<212> PRT
<213> Pinus radiata

<400> 2228
Lys Ile Glu Asn Thr Thr Ser Arg Gln Val Thr Phe Cys Lys Arg Lys
1 5 10 15
Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Leu Leu Cys Asp Ala
20 25 30
Glu Val Ala Leu Leu Ile Phe Ser Thr Ser Gly Arg Leu Tyr Glu Phe
35 40 45
Ala Asn Lys Ser Val Ser Ala Thr Thr Glu Arg Tyr Met Arg Thr Tyr
50 55 60
Ala Glu Asn Met Pro Gln Ser Arg Ala Leu Tyr Pro Asp Cys His His
65 70 75 80
Trp Gln Glu Glu Val Arg Lys Leu Thr Gln Gln Arg Asp Ser Leu Thr
85 90 95
Asn Ser Ile Arg Gln Ile Met Gly Glu Gly Leu Glu Ser Leu Ser Met
100 105 110
Lys Glu Leu Lys His Ile Gln Val Gln Leu Glu Lys Ser Ile Ser Cys
115 120 125

<210> 2229
<211> 181
<212> PRT

<213> Pinus radiata

<400> 2229

Glu Asp Leu Asp Asp Cys Ile His Pro Pro Glu Lys Lys Arg Arg Leu
1 5 10 15
Thr Ala Asp Gln Val Gln Phe Leu Glu Arg Ser Phe Glu Ile Glu Asn
20 25 30
Lys Leu Glu Pro Glu Arg Lys Ile Gln Leu Ala Lys Glu Leu Gly Leu
35 40 45
Gln Pro Arg Gln Val Ala Val Trp Phe Gln Asn Arg Arg Ala Arg Trp
50 55 60
Lys Thr Lys Gln Leu Glu Arg Asp Tyr Asp Ile Leu Lys Ser Arg Tyr
65 70 75 80
Glu Asn Leu Arg Val Asp Tyr Asp Ser Leu Leu Lys Glu Lys Asp Lys
85 90 95
Leu Arg Ala Glu Val Thr Phe Leu Thr Asp Lys Leu His Asp Ser Asp
100 105 110
His Glu Ala Leu Thr Lys Asp Ser Glu Ser Ala Asp Lys Lys Val Tyr
115 120 125
Pro Gln Pro Ala Ser His Ser Asp Cys Val Gly Glu Pro Glu Arg Ser
130 135 140
Thr Ala Ala Lys Asp Thr Pro Pro Gly Cys Lys His Glu Asp Leu Leu
145 150 155 160
Ser Ser Gly Thr Asp Ser Ser Gly Val Leu Asp Glu Asp Ser Pro His
165 170 175
His Val Asp Cys Gly
180

<210> 2230
<211> 107
<212> PRT
<213> Pinus radiata

<400> 2230

Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Ala His Ile Arg Thr His
20 25 30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Met Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Glu Leu Val Ile Lys
65 70 75 80
Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
100 105

<210> 2231
<211> 125
<212> PRT
<213> Pinus radiata

<400> 2231

Lys Lys Gly Val Pro Trp Thr Glu Glu Glu His Arg Gln Phe Leu Met
1 5 10 15

Gly Leu Arg Lys Tyr Gly Lys Gly Asp Trp Arg Ser Ile Ser Arg Asn
            20   25   30
Phe Val Val Ser Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys
        35   40   45
Tyr Tyr Ile Arg Leu Gly Ser Asp Asn Lys Asn Lys Arg Arg Ser Ser
    50   55   60
Ile His Asp Ile Thr Thr Val His Gly Thr Asp Arg Met Pro Ser Pro
65   70   75   80
Leu Leu His Val Ser Asn Arg Gln Thr Asn Ser Pro Ser Thr Gln Ala
                85   90   95
Glu Met Asn His Ser Pro Cys Leu Asp Ile Ser Ile Ser Asp Phe Thr
            100   105   110
Arg Thr Ser Asn Lys Leu Phe Gly Thr Ser Asn Arg Trp
        115   120   125

<210> 2232
<211> 150
<212> PRT
<213> Pinus radiata

<400> 2232
Met Thr Arg Lys Cys Ser His Cys Gly Asn Asn Gly His Asn Ser Arg
1   5   10   15
Thr Cys Pro Asn Arg Gly Gly Val Lys Leu Phe Gly Val Arg Leu Thr
            20   25   30
Asp Gly Pro Ile Arg Lys Ser Ala Ser Met Gly Asn Leu Met Met Met
        35   40   45
Ser Asn Pro Ser Ser Pro Ala Asp Pro Ser Glu Pro Ala Ser Ala Ala
    50   55   60
Ala Ala Ala Ala Ala Ala Ala Ala Ser Gly Tyr Leu Ser Asp Gly Leu
65   70   75   80
Val Glu Ala Ser Thr Ser Ser Asn Ser Arg Glu Arg Lys Lys Gly Val
                85   90   95
Pro Trp Thr Glu Glu Glu His Arg Met Phe Leu Leu Gly Leu Gln Lys
            100   105   110
Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asn Phe Val Ile Thr
        115   120   125
Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr Phe Ile Arg
    130   135   140
Gln Ser Asn Met Thr Arg
145   150

<210> 2233
<211> 102
<212> PRT
<213> Pinus radiata

<400> 2233
Met Lys Met Ser Leu Pro Ser Asn Val Leu Thr Leu Ser Ala Asp Ser
1   5   10   15
Asn Ser Asn Ser Asn Ser Ile Ser Ser Ser Gly Asp Glu Leu Ala Ala
            20   25   30
Lys Val Arg Lys Pro Tyr Thr Ile Thr Lys Gln Arg Glu Arg Trp Ser
        35   40   45
Glu Asp Glu His Leu Lys Phe Leu Glu Ala Leu Lys Met Tyr Gly Arg
    50   55   60
Ala Trp Arg Arg Ile Glu Glu His Ile Gly Thr Lys Thr Ala Val Gln

```
65                  70                  75                  80
Ile Arg Ser His Ala Gln Lys Phe Phe Ser Lys Leu Val Arg Gly Ser
                85                  90                  95
Ser Asn Lys Gly Val Ser
            100

      <210> 2234
      <211> 85
      <212> PRT
      <213> Pinus radiata

      <400> 2234
Gly Ile Asp Met Asn Arg Gly Pro Ala Thr Asn Glu Ser Glu Tyr Ser
 1               5                  10                  15
Ser Val Phe Gln Ala Asp Ala Leu Arg Thr Ile Asp Thr Gly Ser Val
            20                  25                  30
Val Val Lys Arg Glu Arg Glu Arg Thr Phe Glu Leu Glu Ala Glu Arg
        35                  40                  45
Asp Arg Thr Cys Asp Val Ser Ser Arg Thr Ser Asp Glu Glu Glu Ile
    50                  55                  60
Gly Ser Thr Arg Lys Lys Leu Arg Leu Ser Lys Glu Gln Ser Ala Leu
65                  70                  75                  80
Leu Glu Glu Ser Phe
                85

      <210> 2235
      <211> 115
      <212> PRT
      <213> Pinus radiata

      <400> 2235
Asn Leu Glu Ser Leu Thr Leu Lys Glu Leu Gln Gln Leu Glu Lys Gln
 1               5                  10                  15
Leu Gly Arg Ala Ile Lys Lys Ile Tyr Asn Lys Lys Met Lys Ile Ile
            20                  25                  30
Ser Gln Cys Cys Lys Ser Leu Ser Glu Lys Val Arg Ser Leu Glu Glu
        35                  40                  45
Glu Asn Ser Glu Leu Leu Thr Lys Leu Ile Pro Arg Ala Asp Ser Ser
    50                  55                  60
Thr Ser Gly Ala Ala Leu Phe Val Asp Thr Ser Met Pro Lys Ser His
65                  70                  75                  80
Ser Ala Thr Glu Ala Trp Arg Gln Leu Leu Gln Arg Val Leu Val Thr
                85                  90                  95
Ala Ala Lys Met Ala Thr Thr Pro Pro Ala Arg His Ser Asn Ser Arg
            100                 105                 110
Pro Asn His
        115

      <210> 2236
      <211> 88
      <212> PRT
      <213> Pinus radiata

      <400> 2236
Gly Lys Ala Thr Ser Gly Ser Ala Asn Glu Ala Met Ser Gln Ser Gly
 1               5                  10                  15
Asp Ser Gly Ser Asp Gly Ser Ser Glu Gly Ser Glu Glu Tyr Asn Thr
```

20 25 30
Gln Thr Glu Ser Gln Val Ala Arg Lys Arg Ser Phe Asp Gln Met Ile
35 40 45
Val Asp Gly Ala Asn Ala Gln Ser Thr Asn Ile Gln Ser Tyr Asn Ser
50 55 60
Gln Ala Gly Glu Pro Tyr Val Thr Ser Gly Gly His Ala Met Gly Asn
65 70 75 80
Pro Ile Ser Gln Ala Val Ala Ala
85

<210> 2237
<211> 66
<212> PRT
<213> Pinus radiata

<400> 2237
Gln Leu Lys Trp Lys Glu Arg Ile Leu Thr Glu Glu Asn Leu Phe Leu
1 5 10 15
Arg Lys Lys Cys Gly Asp Glu His Val Asp Cys Ser Ala Phe Arg Thr
20 25 30
Pro Pro Ala Gln Leu Arg Ser Ile Gln Asn Ile Asp Val Glu Thr Gln
35 40 45
Leu Val Ile Arg Pro Pro Thr Val Gln Gln His Pro Asp Val Asp Ser
50 55 60
Pro Arg
65

<210> 2238
<211> 176
<212> PRT
<213> Pinus radiata

<400> 2238
Met Gly Arg Thr Pro Cys Cys Leu Lys Val Gly Leu Asn Arg Gly Pro
1 5 10 15
Trp Thr Pro Glu Glu Asp Leu Cys Leu Ser Asn Tyr Ile Glu Ala His
20 25 30
Gly Glu Gly Gly Trp Arg Thr Leu Pro Lys Lys Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr Leu Arg Pro Asp
50 55 60
Val Lys His Gly His Ile Leu Pro Glu Glu Glu Asp Leu Ile Leu Arg
65 70 75 80
Leu His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Met
85 90 95
Pro Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr Trp Asn Thr His Leu
100 105 110
Ser Lys Lys Leu Ile Ser Gln Gly Ile Asp Pro Arg Thr His Lys Pro
115 120 125
Leu Ser Glu Ser Glu Asp Ile Cys Ser Ser Pro Gly Asn Ser Glu Val
130 135 140
Ser Arg Lys Ser Gln Arg Glu Asn Asn Ala Glu Ile Pro Arg Lys Val
145 150 155 160
Ala Asp Gly Ala Val Asp Ile Gln Asp Lys Glu Glu Asp Ile Thr Glu
165 170 175

<210> 2239

<211> 105
<212> PRT
<213> Pinus radiata

<400> 2239
Met Gly Arg Gly Lys Ile Glu Ile Lys Met Ile Glu Asn Thr Ala Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Lys Gly Gly Leu Leu Lys Lys Ala
20 25 30
His Glu Leu Ser Val Leu Cys Asn Ala Glu Ile Ala Leu Ile Val Phe
35 40 45
Ser Asn Thr Gly Lys Leu His Asp Trp Ser Ser Ser Ser Met Lys Lys
50 55 60
Val Met Glu Lys Tyr Gln Lys Ser Asp Gln Gly Leu Gly Leu Met Asp
65 70 75 80
Tyr Gln Gln Gln Gln Leu Leu Cys Glu Met Lys Arg Ile Thr Lys Glu
85 90 95
Asn Glu Ser Leu Arg Ala Arg Leu Arg
100 105

<210> 2240
<211> 78
<212> PRT
<213> Pinus radiata

<400> 2240
Met Ser Asn Gly Arg Leu Cys Glu Asp Leu Asp Arg Ile Lys Gly Pro
1 5 10 15
Trp Ser Pro Glu Glu Asp Ala Ser Leu Gln Arg Leu Val Gln Lys Tyr
20 25 30
Gly Pro Arg Asn Trp Thr Leu Ile Ser Lys Gly Ile Pro Gly Arg Ser
35 40 45
Gly Lys Ser Cys Arg Leu Arg Trp Cys Asn Gln Leu Ser Pro Gln Val
50 55 60
Glu His Arg Pro Phe Thr Pro Ser Glu Asp Ala Ala Ile Leu
65 70 75

<210> 2241
<211> 67
<212> PRT
<213> Pinus radiata

<400> 2241
Met Gly Arg Ala Leu Gly Arg Thr Glu Ile Lys Arg Ile Glu Asn Glu
1 5 10 15
Val Ser Arg Asn Val Ser Phe Arg Lys Arg Arg Arg Gly Leu Leu Lys
20 25 30
Lys Ala Ala Glu Leu Ser Ile Leu Cys Asp Ala Thr Val Gly Val Val
35 40 45
Val Phe Ser Pro Ala Gly Lys Leu Ser Glu Tyr Ala Ser Thr Ser Glu
50 55 60
Gln Met Asp
65

<210> 2242
<211> 131
<212> PRT

<213> Pinus radiata

<400> 2242

Ile Arg Asn Pro Thr Asn Arg His Ser Ser Phe Tyr Lys Arg Lys Gly
1 5 10 15
Gly Leu Leu Lys Lys Ala Phe Glu Leu Ala Val Leu Cys Asp Ala Glu
20 25 30
Val Ala Leu Ile Ile Phe Ser Glu Thr Gly Arg Ile Tyr Glu Phe Ala
35 40 45
Ser His Asp Asp Val Thr Thr Val Leu Ala Lys Tyr Arg Ile Gln Thr
50 55 60
Lys Thr Ala Gly Asn Ala Met Pro Ser Ser Leu Gln Lys Thr Glu Phe
65 70 75 80
Asp Gln Leu Gln Val Arg Met Leu Gln Glu Lys Ile Asp Asn Leu Glu
85 90 95
Lys Thr Lys Lys His Met Val Gly Asp Asn Leu Glu Ser Leu Thr Trp
100 105 110
Lys Glu Leu Gln Gln Val Glu Lys Lys Leu Ser Lys Ala Thr Lys Ile
115 120 125
Ile Val Ala
130

<210> 2243
<211> 29
<212> PRT
<213> Pinus radiata

<400> 2243

Gln Pro Val Ala Pro Glu Ser Ile Val Pro Pro His Gln Pro Pro His
1 5 10 15
Asn Gln Thr Pro Asn Gln Tyr Met Gln Gly Trp Trp Val
20 25

<210> 2244
<211> 107
<212> PRT
<213> Pinus radiata

<400> 2244

Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Ala His Ile Arg Thr His
20 25 30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Met Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Glu Leu Ile Ile Lys
65 70 75 80
Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
100 105

<210> 2245
<211> 168
<212> PRT

<213> Pinus radiata

<400> 2245

```
Thr Ala Glu Glu Asp Arg Lys Leu Val Asn Phe Ile Thr Leu His Gly
 1               5                   10                  15
His Gly Cys Trp Arg Glu Val Pro Lys Leu Ala Gly Leu Leu Arg Cys
            20                  25                  30
Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Asp Leu
        35                  40                  45
Lys Arg Gly Leu Leu Ser Glu Ser Glu Glu Lys Leu Ile Ile Asp Leu
    50                  55                  60
His Ala Ala Ile Gly Asn Arg Trp Ser Arg Ile Ala Ala Gln Leu Pro
65                  70                  75                  80
Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr Arg Ile Lys
                85                  90                  95
Lys Lys Leu Arg Gln Met Gly Ile Asp Pro Val Thr His Lys Pro Leu
            100                 105                 110
Thr Gln Met Gln Met Gln Ser Thr Pro Ala Gln Thr Leu Leu Leu Gln
        115                 120                 125
Glu Asn Asp Thr Glu Gln Gln Gln Gln Glu Gln His Asn Glu Pro Asp
    130                 135                 140
Pro Asp Gln Asn Gln Ser Ser Asn Gly Thr Val Glu Thr Leu Val Ser
145                 150                 155                 160
Arg Ala Arg Glu Pro His Asp His
                165
```

<210> 2246
<211> 164
<212> PRT
<213> Pinus radiata

<400> 2246

```
Ser Asp Gly Thr Thr Thr Met Ser Thr Tyr Glu Arg Lys Ala Ser Leu
 1               5                   10                  15
Arg Glu Phe Tyr Ala Val Ile Tyr Pro Ser Leu Leu Gln Leu Glu Gly
            20                  25                  30
Gly Ile Thr Glu Met Glu Asp Asn Lys Gln Lys Leu Ile Cys Lys Glu
        35                  40                  45
Arg Tyr Lys Lys Arg Val Asp Glu Glu Arg Arg His Leu Ser Glu Leu
    50                  55                  60
Asp Leu Glu Arg Glu Lys Glu Cys Gly Ile Cys Met Glu Thr Gln Thr
65                  70                  75                  80
Lys Val Val Leu Pro Asn Cys Ser His Ala Met Cys Leu Asn Cys Tyr
                85                  90                  95
Arg Glu Trp His Ala Arg Ser Glu Ser Cys Pro Phe Cys Arg Asp Ser
            100                 105                 110
Leu Lys Arg Val Asn Ser Thr Asp Leu Trp Ile Phe Thr Ser Asn Glu
        115                 120                 125
Glu Val Val Asp Met Glu Thr Leu Gly Arg Glu Asn Leu Lys Arg Leu
    130                 135                 140
Phe Asn Tyr Ile Asp Lys Leu Pro Leu Ile Val Pro Glu Ser Leu Phe
145                 150                 155                 160
Tyr Val Tyr Asp
```

<210> 2247
<211> 414

<212> PRT
<213> Eucalyptus grandis

<400> 2247

```
Met Gly Arg His Ser Cys Cys Tyr Lys Gln Lys Leu Arg Lys Gly Leu
 1               5                  10                  15
Trp Ser Pro Glu Glu Asp Glu Lys Leu Leu Arg His Ile Ser Gln Tyr
            20                  25                  30
Gly His Gly Cys Trp Ser Ser Val Pro Lys Gln Ala Gly Leu Gln Arg
        35                  40                  45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
    50                  55                  60
Leu Lys Arg Gly Ala Phe Ser Gln Asp Glu Glu Asp Leu Ile Ile Glu
65                  70                  75                  80
Leu His Ala Ala Leu Gly Asn Lys Trp Ser Gln Ile Ala Ala Asn Leu
                85                  90                  95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Leu Trp Asn Ser Cys Leu
            100                 105                 110
Lys Lys Lys Leu Arg Gln Arg Gly Ile Asp Pro Val Ser His Arg Pro
        115                 120                 125
Leu Ser Glu Val Glu Asn Ser Asp Asp Lys Asp Ala Thr Ser Gly Gln
    130                 135                 140
Thr Gln Asp Lys Val Ser Arg Gly Ser Val Glu Leu Leu Ser Gln Leu
145                 150                 155                 160
Asn Pro Gln Phe Ser Ser Ser Thr Thr Ala Arg Ser Ser Lys Asn Ser
                165                 170                 175
Asn Leu Met Ala Pro Thr Leu Ser Lys Asp Thr Val Ala Asp Gly Phe
            180                 185                 190
Val Ser Asn His Gln Glu Asn Ser Met Met Asn Ser Cys Ile Ser Asp
        195                 200                 205
Phe Val Asp Asn Phe Ser Leu Gln Gln Leu Asn Tyr Ser Ser Ser Asp
    210                 215                 220
Ser Arg Phe Ser Asn Leu Cys Phe Thr Gln Thr Gly Arg Ala His Gly
225                 230                 235                 240
Asn Thr Ile Phe Ser Asp Phe Asn Ser Asn Val Ile Ser Ala Ile Ser
                245                 250                 255
Pro Pro Ser Ser Asn Ser Leu Phe Pro Thr Ala Ser Met Gly Phe Asn
            260                 265                 270
Phe Lys Pro Ser Asn Ala Val Pro Ser Ala Asn Ser Thr Ser Ser Ala
        275                 280                 285
Ser Thr Gly Thr Ala Asp Phe His Asn Ser Gly Ser Tyr Phe Gly Asn
    290                 295                 300
Ser Leu Val Ser Trp Gly Leu Leu Ala Asp Cys Gly Ser Pro Asp Lys
305                 310                 315                 320
Glu Gly Ser Thr Ser Ile His Pro Leu Glu Val His Gln Pro Gly Asp
                325                 330                 335
Phe Lys Trp Ala Ala Glu Tyr Leu Gln Asn Pro Leu Phe Met Ala Ala
            340                 345                 350
Ala Leu Gln Asn Gln Ala Gln Glu Gln Ser Asn Leu Tyr Asn Gln Ile
        355                 360                 365
Lys Pro Glu Thr Gln Phe Pro Pro Asp His Ser Thr Thr Ser Met Trp
    370                 375                 380
Asp His Leu Gln Gly His Glu Ser Leu Asp Asn Ser Leu Asn Thr Cys
385                 390                 395                 400
Gly Lys Asp Ile Gln Arg Leu Thr Ala Leu Leu Gly His Asn
                405                 410
```

<210> 2248
<211> 205
<212> PRT
<213> Eucalyptus grandis

<400> 2248

```
Met Arg Tyr Pro Ala Pro Ala Pro Ala Ser Arg Gly Lys Ser Thr Ser
 1               5                  10                  15
Thr Ala Thr Pro Cys Cys Ser Lys Val Gly Ile Lys Arg Gly Pro Trp
            20                  25                  30
Thr Pro Glu Glu Asp Glu Val Leu Ala Ser Tyr Val Arg Arg Glu Gly
        35                  40                  45
Glu Gly Arg Trp Arg Thr Leu Pro Lys Arg Ala Gly Leu Gln Arg Cys
    50                  55                  60
Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr Leu Arg Pro Ser Val
65                  70                  75                  80
Lys Arg Gly Gln Ile Ala Pro Asp Glu Glu Asp Leu Ile Leu Arg Leu
                85                  90                  95
His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Ile Pro
            100                 105                 110
Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Leu Ser
        115                 120                 125
Lys Lys Leu Ile Ser Gln Gly Ile Asp Pro Arg Thr His Lys Pro Leu
    130                 135                 140
Leu Asn His Asn Pro Ser Ser Ser Leu Ala Ala His Leu Gln Asp Thr
145                 150                 155                 160
Tyr Asn Ala Ser Thr Phe Thr Pro Lys Ala Thr Tyr Pro Asn Pro Thr
                165                 170                 175
Val Pro Val Glu Glu Thr Gly Asp Glu Asn Asp Leu Lys Val Gly Arg
            180                 185                 190
Gln Pro Ala Gly Ser Ala Ser Lys Arg Gly Arg Cys Gln
        195                 200                 205
```

<210> 2249
<211> 195
<212> PRT
<213> Eucalyptus grandis

<400> 2249

```
Met Asp Lys Lys Pro Asp Asp Asp Ser Gly Lys Ser Gln Asp Val Glu
 1               5                  10                  15
Val Arg Lys Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn
            20                  25                  30
Tyr Ile Ala Asn His Gly Glu Gly Ser Trp Asn Ser Leu Ala Lys Ala
        35                  40                  45
Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn
    50                  55                  60
Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Ile Thr Thr Glu Glu Gln
65                  70                  75                  80
Leu Leu Ile Met Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys
                85                  90                  95
Ile Ala Lys His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Phe
            100                 105                 110
Trp Arg Thr Arg Ile Gln Lys His Ile Lys Gln Ala Glu Ala Phe Ser
        115                 120                 125
Gly Gln Ser Ser Glu Met Ser Asp Gln Ala Ser Thr Ser His Met Ser
    130                 135                 140
```

Ser Met Pro Glu Pro Met Glu Thr Tyr Asp Ser Pro Pro Ser Phe Gln
145 150 155 160
Gly Asn Asn Asn Met Glu Pro Leu Pro Val Asn Leu Ser Val Glu Ser
165 170 175
Asn Glu Ala Tyr Trp Ser Met Asp Asp Leu Trp Ser Met Gln Leu Leu
180 185 190
Asn Gly Asp
195

<210> 2250
<211> 208
<212> PRT
<213> Eucalyptus grandis

<400> 2250
Met Asp Lys Lys Pro Cys Tyr Arg Thr Gln Asp Pro Gln Val Arg Lys
1 5 10 15
Gly Pro Trp Thr Leu Glu Glu Asp Leu Ile Leu Met Asp Tyr Ile Ala
20 25 30
Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly Leu
35 40 45
Gln Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg
50 55 60
Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile
65 70 75 80
Ile His Leu Gln Ser Met Trp Gly Asn Arg Trp Ser Glu Ile Ala Lys
85 90 95
His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg Thr
100 105 110
Lys Ile Gln Lys His Ile Ile Lys Gln Ser Glu Thr Glu Ile Asn Asp
115 120 125
Leu Thr Ile Pro Pro Ser Ser Ala Asn Ala Cys Thr Asp His Arg Gly
130 135 140
Val Ser Ala Ala Asn Thr Ile Glu Ile Ala Cys Ser Pro Pro Ser Asp
145 150 155 160
Gln Gly Gly Ser Gly Glu Thr Met Leu Ser Ala Leu Pro Pro Ala Gln
165 170 175
Glu Pro Asn Asp Ser Ala Cys Trp Ser Val Glu Asp Leu Trp Pro Ile
180 185 190
Gln Ser Leu Ile Ser Gly Met Gly Asp Asp Ala Gln Tyr Tyr Ser Val
195 200 205

<210> 2251
<211> 147
<212> PRT
<213> Eucalyptus grandis

<400> 2251
Met Asn Ser Thr Thr Thr Gln Phe Val Ser Ser Arg Arg Met Gly Met
1 5 10 15
Tyr Asp Pro Ile His Gln Ile Gly Met Trp Asp Glu Asn Phe Lys Gln
20 25 30
Asn Gly Asn Pro Asn Ala Pro Pro Ala Leu Ile Ile Pro Met His Ala
35 40 45
Asn Leu Asp Asn Gln Ser Glu Asp Thr Ser His Gly Ser Gln Asp Thr
50 55 60
Ala Gly Lys Tyr Glu Gln Glu Thr Ser Lys Pro Tyr Asp Lys Val Gln

65 70 75 80
Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser Arg Leu Arg
85 90 95
Lys Lys Ala Tyr Val Gln Gln Leu Glu Ala Ser Arg Leu Lys Leu Met
100 105 110
Gln Leu Glu Gln Glu Val Asp Arg Ala Arg Gln Gln Gly Val Tyr Met
115 120 125
Ala Ser Gly Val Asp Ser Ala Tyr Pro Gly Tyr Gly Gly Cys Leu Asn
130 135 140
Ser Gly Ile
145

<210> 2252
<211> 43
<212> PRT
<213> Eucalyptus grandis

<400> 2252
Met Met Ala Val Thr Ser Ala Cys Lys Asp Lys Met Gly Ile Asp Asn
1 5 10 15
Gly Lys Tyr Val Arg Tyr Thr Pro Glu Gln Val Glu Ala Leu Glu Arg
20 25 30
Leu Tyr His Glu Cys Pro Lys Pro Ser Ser Leu
35 40

<210> 2253
<211> 54
<212> PRT
<213> Pinus radiata

<400> 2253
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Gln Glu Asp Asp Arg Leu Ile Ala His Ile Arg Ala His
20 25 30
Gly Glu Gly Gly Trp Arg Ser Leu Pro Lys Ala Ala Gly Cys Leu Pro
35 40 45
Ala Leu Cys Phe Leu Asn
50

<210> 2254
<211> 66
<212> PRT
<213> Pinus radiata

<400> 2254
Met Gly Arg Ala Pro Cys Cys Glu Lys Val Gly Leu Lys Lys Gly Pro
1 5 10 15
Trp Thr Pro Glu Glu Asp Gln Lys Leu Val Thr Tyr Ile Gln Glu His
20 25 30
Gly His Gly Ser Trp Arg Ala Leu Pro Gln Lys Ala Gly Asp Tyr Glu
35 40 45
Phe Ile Phe Ser Ser Arg Thr Cys Lys Lys Phe Ser Val Phe Leu Phe
50 55 60
Phe Gly
65

<210> 2255
<211> 67
<212> PRT
<213> Pinus radiata

<400> 2255
Met Gly Arg Ser Pro Cys Cys Ala Lys Glu Gly Leu Asn Arg Gly Ala
1 5 10 15
Trp Thr Lys Thr Glu Asp Ile Ile Leu Ser Glu Tyr Ile Arg Ile His
20 25 30
Gly Asp Gly Gly Trp Arg Ser Leu Pro Lys Lys Ala Gly Leu Lys Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp
50 55 60
Ile Lys Arg
65

<210> 2256
<211> 226
<212> PRT
<213> Pinus radiata

<400> 2256
Met Gly Arg Ala Pro Cys Cys Ser Asn Asp Asp Arg Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Gln Tyr Ile Lys Val His
20 25 30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Phe Phe Ser Glu Asp Glu Asp Asp Leu Ile Leu Lys
65 70 75 80
Leu His Ala Leu Leu Gly Asn Asn Arg Trp Ser Leu Ile Ala Gly Arg
85 90 95
Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Ser His
100 105 110
Leu Lys Arg Lys Leu Ile Ser Met Gly Ile Asp Pro Leu Thr His Arg
115 120 125
Pro Phe Gln Lys Thr Ser His His His Pro Ser Pro Pro Gln Asn Val
130 135 140
Arg Glu Ala Glu Thr Thr Pro Ser Ile Gly Ile Val Gln Asp Phe Phe
145 150 155 160
Arg Cys Pro Ser Glu Leu Ser Thr Lys Ser Glu Gln Ile Ser Asp Ala
165 170 175
Ala Ser Gly Leu Ala Gln Asp Glu Gln Pro His Pro Asn Leu Asn Leu
180 185 190
Asn Leu Glu Leu Ser Ile Ala Arg Ser Ser Val His Arg Val Ala Glu
195 200 205
Lys Glu Asp Val Val Asn Ser Gln Gln Gly Glu Ser Asn Leu Ser Glu
210 215 220
Gly Lys
225

<210> 2257
<211> 101
<212> PRT

<213> Pinus radiata

<400> 2257

```
Met Gly Arg Ala Pro Cys Cys Ser Asn Gly Asp Arg Asn Lys Gly Ala
1               5                   10                  15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Gln Tyr Ile Lys Val His
            20                  25                  30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Asn Ala Ala Gly Leu Leu Arg
        35                  40                  45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Cys Pro Asp
    50                  55                  60
Leu Lys Arg Gly Phe Phe Ser Glu Asp Glu Asp Asp Leu Ile Leu Lys
65                  70                  75                  80
Leu His Ala Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
                85                  90                  95
Pro Gly Arg Thr Asp
            100
```

<210> 2258
<211> 412
<212> PRT
<213> Pinus radiata

<400> 2258

```
Met Gly Arg Thr Pro Cys Cys Glu Lys Asn Ile Gly Leu Lys Lys Gly
1               5                   10                  15
Pro Trp Thr Pro Glu Glu Asp Gln Lys Leu Ile Asp Tyr Ile Gln Ser
            20                  25                  30
His Gly His Gly Ser Trp Arg Ala Leu Pro Lys Arg Ala Gly Leu Leu
        35                  40                  45
Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro
    50                  55                  60
Asp Ile Lys Arg Gly Gln Phe Ser Phe Glu Glu Glu Gln Thr Ile Ile
65                  70                  75                  80
Glu Leu His Ala Val Leu Gly Asn Lys Trp Ser Thr Ile Ala Gly His
                85                  90                  95
Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His
            100                 105                 110
Leu Lys Lys Arg Leu Leu Gln Met Gly Ile Asp Pro Val Thr His Arg
        115                 120                 125
Pro Arg Thr Asp Leu Leu Ala Phe Ser Asn Ile Gln Ser Ser Ile Phe
    130                 135                 140
Asn Thr Pro Gly Phe Gly His Met Ala Gln Trp Glu Ser Ala Arg Leu
145                 150                 155                 160
Glu Ala Glu Ala Arg Leu Thr Gly Glu Tyr Leu Arg Gln Ala Leu Phe
                165                 170                 175
Met Ala Gly Asn Gly Ser Ala Thr Ala Asp Leu Leu Met Arg Pro Cys
            180                 185                 190
Lys Ser Glu Phe Gly Asn Asp Gln Phe Asn Leu Thr Lys Asn Met Gly
        195                 200                 205
Asn Pro Pro Trp Ile Gln Gln Pro Gly Met Ala Leu Asp Tyr Lys Gly
    210                 215                 220
Ala Val Pro Gln Ser Leu Glu Gln Phe Leu Gln Thr Asn Val Cys Ser
225                 230                 235                 240
Ala Ser Asp Ile Asn Gly Gly Gly Cys Leu Ser His Glu Gly Gly Phe
                245                 250                 255
Asn Ile Thr Lys Phe Ala Ser Pro Cys Ser Thr Leu Asp Gly Ile Gln
```

260 265 270
Ile Lys Thr Glu Pro Gln Ser Leu Cys Gly Pro Gln Val Val Lys Asn
275 280 285
Asp Ser Gln Phe Leu His Ser Glu Gly Asp Leu Arg Lys Gln Ala Met
290 295 300
Leu Asp Met Asn Val Gly Cys Asn Val Leu Ile Asn Met Asn Ala Glu
305 310 315 320
Ser Lys Val Ser Phe Gly His Asn Gly Ile Ile Thr Asp Gln Glu Tyr
325 330 335
Asn Asn Leu Gly Gln Ile Asp Asn Asn Asn His Leu Ser His Ala Ala
340 345 350
Thr Thr Leu Trp Pro Val Glu Gly Gln Leu Gln Ala Ile Ala Ser Ala
355 360 365
Ser Met Pro Gly Leu Ile Ser Ser Thr Ser Cys Thr Ser Asn Asn Ile
370 375 380
Tyr Ser Gln Pro Gly Leu Ile Pro Leu Leu Asn Ser Thr Thr Ser Ser
385 390 395 400
Met Gly Asp Thr Asn Ser Tyr Arg Glu Ala Gln Pro
405 410

<210> 2259
<211> 391
<212> PRT
<213> Pinus radiata

<400> 2259
Met Gly Arg Thr Pro Cys Cys Leu Lys Val Gly Leu Asn Arg Gly Pro
1 5 10 15
Trp Thr Pro Glu Glu Asp Leu Cys Leu Ser Asn Tyr Ile Glu Ala His
20 25 30
Gly Glu Gly Gly Trp Arg Thr Leu Pro Lys Lys Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr Leu Arg Pro Asp
50 55 60
Val Lys His Gly His Ile Leu Pro Glu Glu Glu Asp Leu Ile Leu Arg
65 70 75 80
Leu His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly Arg Met
85 90 95
Pro Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr Trp Asn Thr His Leu
100 105 110
Ser Lys Lys Leu Ile Ser Gln Gly Ile Asp Pro Arg Thr His Lys Pro
115 120 125
Leu Ser Glu Ser Glu Asp Ile Cys Ser Ser Pro Gly Asn Ser Glu Val
130 135 140
Ser Arg Lys Ser Gln Arg Glu Asn Asn Ala Glu Ile Pro Arg Lys Val
145 150 155 160
Ala Asp Gly Ala Val Asp Ile Gln Asp Lys Glu Glu Asp Ile Thr Glu
165 170 175
Asp Gln Thr Ser Ala Gln Leu Pro Glu Asn Gln Leu Leu Glu Thr Ser
180 185 190
Asn Ser Gln Cys Pro Ser Val Ala Thr Asp Phe Val Pro Gln Ala Pro
195 200 205
Ser Ile Pro Ser Thr Ala Tyr Ser Phe Gln Gln Ser Thr Thr Ser Ser
210 215 220
Val Pro Gly Gly Val Ser Asp Ser Val Asp Val Asn His Asn Lys Gly
225 230 235 240
Ser Lys Gln Val Pro Phe Pro Leu Ser Asn Thr Ala Cys Phe Asn Ser

245 250 255
Ser Ala Gln Gly Val Ala Gly Asp Tyr Leu Asp Gln Tyr Leu Met Lys
260 265 270
Asn Leu Val Thr Asn Ser Asn Asp Leu Ile Thr Ser Thr Val Arg Leu
275 280 285
Ser Ser Ala Leu Gln Thr Ala Pro Phe Val Gly Gln Phe Asp Ser Asn
290 295 300
His Val Phe Met Ser Gly Asn Ala Ser Leu Asn Glu Lys His Gln Met
305 310 315 320
Pro Gln Asn Ser Gln Ala Leu Glu Met Asp Pro His His Ser Phe Ile
325 330 335
Ala His Pro Ser Glu Glu Gly Thr Tyr Asp Lys Leu Asn His Thr Arg
340 345 350
Cys Ala Ala Ser Asp Gln Val Thr Ser Phe Asn Tyr Pro Tyr Leu Ile
355 360 365
Ser His Thr Val Thr Gly Ser Ala Leu Gly Asp Phe Asn Pro Asp Ile
370 375 380
Phe Pro Pro Phe Val Glu Ser
385 390

<210> 2260
<211> 144
<212> PRT
<213> Pinus radiata

<400> 2260
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Gln Glu Asp Asp Arg Leu Ile Ala His Ile Arg Ala His
20 25 30
Gly Glu Gly Gly Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Ser Phe Thr Glu Glu Glu Asp Glu Leu Ile Ile Lys
65 70 75 80
Leu His Ser Phe Val Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Ile
100 105 110
Lys Arg Lys Leu Leu Ser Lys Gly Leu Asp Pro Gln Thr His Arg Pro
115 120 125
Leu Gly Gln Pro Asn Asn Thr Pro Val Thr Arg Pro Val Leu Glu His
130 135 140

<210> 2261
<211> 255
<212> PRT
<213> Pinus radiata

<400> 2261
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Ala His Ile Arg Thr His
20 25 30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Met Arg
35 40 45

Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Glu Leu Val Ile Lys
65 70 75 80
Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Ile
100 105 110
Lys Arg Lys Leu Leu Asn Arg Gly Leu Asp Pro Gln Ser His Arg Pro
115 120 125
Leu Gly Gln Pro His Asn Ser Asn Thr Thr Cys Pro Ser Leu Pro Ala
130 135 140
Leu Glu His Glu Ile Leu Val Phe Gln Arg Pro Arg Thr Pro Glu Ile
145 150 155 160
Ala Asp Phe Phe Gln Tyr Glu Arg Ser Glu Ser Ser Pro Met Glu Pro
165 170 175
Ala Thr Ser Lys Asp Ala Glu Glu His Pro Asp Leu Asn Leu Asp Leu
180 185 190
Cys Ile Ser Leu Pro Val His Ser Pro Pro Ala Thr Ser Arg Ala Ser
195 200 205
Ser Val Asp Gly Thr Val Asp Ser Lys Pro Asn Ser Val Ser Cys His
210 215 220
Met Gly Leu Gln Val Asn Tyr Gly Val Gln Cys Glu Asn Arg Tyr Cys
225 230 235 240
Glu Glu Ser Ala Ser Gly Val Ser Ser Phe Tyr Thr Leu Val Leu
245 250 255

<210> 2262
<211> 162
<212> PRT
<213> Pinus radiata

<400> 2262
Met Gly Thr Gly Glu Met Gly Thr Pro Ala Lys Thr Thr Lys Ala Ser
1 5 10 15
Thr Pro Gln Glu Gln Pro Pro Thr Ser Thr Ala Met Leu Tyr Pro Asp
20 25 30
Trp Ala Ala Ala Phe Gln Ala Tyr Tyr Asn Ser Gly Thr Thr Pro Pro
35 40 45
Pro Pro Pro Ala Tyr Phe His Ser Ser Val Ala Ser Ser Pro Gln Pro
50 55 60
His Pro Tyr Met Trp Gly Gly Gln Pro Leu Met Pro Pro Tyr Gly Thr
65 70 75 80
Leu Pro Pro Pro Tyr Ala Ala Met Tyr His His Gly Ser Met Tyr Ala
85 90 95
His Pro Ser Met Pro Pro Gly Ala His Pro Phe Ala Pro Tyr Val Met
100 105 110
Thr Ser Ser Leu Ser Thr Thr Glu Gly Ala Pro Val Gly Thr Thr Ser
115 120 125
Gly Ala Asp Ala Glu Gly Lys Pro Ser Glu Pro Lys Asp Gln Thr Leu
130 135 140
Leu Lys Arg Ser Lys Gly Ser Leu Gly Ser Leu Asn Met Leu Thr Gly
145 150 155 160
Lys Ile

<210> 2263

<211> 193
<212> PRT
<213> Pinus radiata

<400> 2263
Met Gly Cys Asn Gln Ser Lys Val Glu Ser Glu Glu Glu Val Val Lys
1 5 10 15
Ser Lys Glu Arg Lys Gln Phe Met Lys Glu Ser Val Ala Ala Arg Asn
20 25 30
Ala Phe Ala Ala Ala His Ser Ala Ser Ile Thr Ser Leu Lys Asn Ile
35 40 45
Gly Ala Ala Leu Asn Asp Tyr Gly Gln Gly Glu Ser Lys Glu Ser Leu
50 55 60
Ser Gln Gly His Leu Pro Val Pro His Ile Tyr Gly Asp Pro Leu Pro
65 70 75 80
Pro Ala Pro Pro Leu Pro Pro Leu Leu Pro Pro Pro Arg Pro Asp Glu
85 90 95
His Pro Ala Arg Pro Leu Glu Arg Ser Ala Ser Ala Pro Ala Ile Ala
100 105 110
Leu Gln Gln Gln Ala Glu Glu Asp Arg Asn Pro Glu Ala Asn Ala Gly
115 120 125
Ala Ser Ile Pro Glu Gly Glu Glu Asp Glu Val Glu Glu Glu Glu Asp
130 135 140
Glu His Leu Val Glu Val Ser His Ser Val Thr Ser Phe Asn Pro Pro
145 150 155 160
Pro Arg Pro Pro Pro Ser Ser Ser Glu Pro Pro Pro Pro Pro Leu Pro
165 170 175
Pro Leu Thr Asn Gln Trp Asp Phe Phe Asp Asp Asn Ser Tyr Phe Glu
180 185 190
Arg

<210> 2264
<211> 128
<212> PRT
<213> Pinus radiata

<400> 2264
Met Gly Arg Gly Lys Ile Glu Ile Lys Met Ile Glu Asn Ala Thr Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Gly Gly Leu Lys Lys Lys Ala
20 25 30
Gln Glu Leu Ser Val Leu Cys Asn Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Ser Thr Gly Lys Leu His Glu Trp Ser Ser Ser Ser Ser Phe Phe
50 55 60
Met Leu Gln Lys Ser Met Lys Lys Ile Leu Glu Arg Tyr Gln Lys Ser
65 70 75 80
Glu Gln Gly Leu Gly Leu Met Asp Tyr Gln His Gln Gln Leu Leu Cys
85 90 95
Glu Met Arg Arg Ile Thr Lys Glu Asn Glu Ser Leu Gln Glu Arg Leu
100 105 110
Arg His Met Asn Gly Glu Glu Val Asn Ser Leu Lys Leu Pro Glu Leu
115 120 125

<210> 2265
<211> 181

<212> PRT
<213> Pinus radiata

<400> 2265
Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
1   5   10   15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
            20   25   30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
        35   40   45
Ser Ser Arg Gly Lys Leu Tyr Glu Phe Gly Ser Ala Gly Met Leu Lys
    50   55   60
Thr Leu Glu Arg Tyr Gln Lys Cys Ser Tyr Val Leu Gln Asp Ala Thr
65   70   75   80
Val Ser Asp Arg Glu Ala Gln Asn Trp His Gln Glu Val Gly Lys Leu
                85   90   95
Lys Ala Arg Val Glu Leu Leu Gln Arg Ser Gln Arg His Leu Leu Gly
            100   105   110
Glu Asp Leu Gly Pro Leu Ser Ile Lys Glu Leu Gln Gln Leu Glu Arg
        115   120   125
Gln Leu Glu Val Ala Leu Thr His Val Arg Ser Arg Lys Thr Gln Val
    130   135   140
Met Leu Glu Met Met Asp Glu Leu Arg Arg Lys Glu Arg Ile Leu Gln
145   150   155   160
Glu Val Asn Lys Ser Leu Arg Lys Lys Leu Gln Glu Ala Glu Gly Gln
                165   170   175
Ala Phe Asn Ala Met
            180

<210> 2266
<211> 107
<212> PRT
<213> Pinus radiata

<400> 2266
Met Asp Leu Met Glu Ser Phe Glu Ala Lys Gly Lys Gly Glu Lys Arg
1   5   10   15
Arg Thr Val Arg Gly Lys Thr Gln Leu Lys Arg Ile Glu Asn Gly Thr
            20   25   30
Ser Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys
        35   40   45
Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val
    50   55   60
Phe Ser Pro Arg Gly Lys Arg Tyr Glu Phe Ala Asn Pro Ser Met Gln
65   70   75   80
Lys Met Leu Ala Arg Tyr Glu Asn Phe Ser Glu Gly Ser Lys Ala Thr
                85   90   95
Ser Thr Ala Lys Glu Gln Asp Val Gln Gly Leu
            100   105

<210> 2267
<211> 134
<212> PRT
<213> Pinus radiata

<400> 2267
Ala Arg Gly Lys Thr Gln Met Arg Lys Ile Glu Ser Ala Thr Ser Arg

1 5 10 15
Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Met Lys Lys Ala Tyr
20 25 30
Glu Leu Ser Val Leu Cys Asp Ala Gln Leu Gly Leu Ile Val Phe Ser
35 40 45
Pro Arg Gly Lys Val Tyr Glu Phe Ser Ser Thr Cys Met Gln Lys Met
50 55 60
Leu Ala Arg Tyr Glu Lys Cys Ser Glu Gly Ser Asp Thr Ser Thr Ser
65 70 75 80
Lys Glu Gln Asp Val Gln Cys Leu Lys Arg Glu Ser Ala Asn Met Glu
85 90 95
Glu Arg Ile Glu Ile Leu Glu Ser Met Gln Arg Lys Met Leu Gly Glu
100 105 110
Glu Leu Ala Ser Cys Ala Leu Lys Asp Leu Asn Gln Leu Glu Ser Gln
115 120 125
Val Glu Arg Gly Leu Arg
130

<210> 2268
<211> 138
<212> PRT
<213> Pinus radiata

<400> 2268
Met Gly Arg Gly Arg Val Gln Leu Arg Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Thr Arg Gly Lys Leu Tyr Glu Phe Ala Ser Ser Ser Met Asn Lys
50 55 60
Thr Leu Glu Arg Tyr Glu Lys Cys Ser Tyr Ala Met Gln Asp Thr Thr
65 70 75 80
Gly Val Ser Asp Arg Glu Ala Gln Asn Trp His Gln Glu Val Thr Lys
85 90 95
Leu Lys Gly Lys Val Glu Leu Leu Gln Arg Ser Gln Arg His Leu Leu
100 105 110
Gly Glu Asp Leu Gly Pro Leu Asn Val Lys Glu Leu Gln Gln Leu Glu
115 120 125
Arg Gln Leu Glu Val Ala Leu Thr His Leu
130 135

<210> 2269
<211> 141
<212> PRT
<213> Pinus radiata

<400> 2269
Met Gly Lys Lys Arg Val Glu Leu Lys Arg Ile Gln Asn Pro Ser Ser
1 5 10 15
Arg His Ala Thr Phe Ser Lys Arg Lys Asn Gly Leu Leu Lys Lys Ala
20 25 30
Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Glu Thr Gly Lys Ile Tyr Glu Phe Ala Ser Asn Asn Asp Met Ala
50 55 60

Ala Ile Leu Gly Lys Tyr Arg Val His Glu Glu Gly Thr Glu Thr Ser
65 70 75 80
Ser Pro Thr Ser Leu Gln Asn Val Lys Tyr His Glu Ser Gly Leu Glu
85 90 95
Lys Leu Gln Glu Lys Leu Thr Ala Leu Gln Lys Lys Glu Lys Asn Leu
100 105 110
Ile Gly Glu Asp Leu Glu Val Leu Thr Met Lys Glu Leu Gln Arg Leu
115 120 125
Glu Lys Gln Leu Gln Ile Gly Ile Lys Arg Leu Val Ile
130 135 140

<210> 2270
<211> 135
<212> PRT
<213> Pinus radiata

<400> 2270
Met Gly Lys Lys Lys Val Glu Val Lys Leu Ile Gln Asn Pro Thr Ser
1 5 10 15
Arg Gln Gly Cys Phe Tyr Asn Arg Lys Cys Gly Leu Leu Lys Lys Ala
20 25 30
Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Gln Thr Gly Lys Ile Tyr Glu Phe Ala Ser His Asp Asp Val Asn
50 55 60
Ala Ile Leu Ala Lys Tyr Arg Ile Gln Thr Gly Thr Thr Thr Asn Ala
65 70 75 80
Met Pro Ser Ser Leu Gln Asn Thr Glu Pro Glu Thr Leu His Glu Glu
85 90 95
Thr Asn Met Leu Gly Lys Arg Lys Lys Val Glu Lys Leu His Glu Lys
100 105 110
Ile Asn Met Leu Glu Lys Arg Gly Lys Asn Met Val Gly Glu Asn Leu
115 120 125
Glu Ser Leu Thr Val Asn Glu
130 135

<210> 2271
<211> 118
<212> PRT
<213> Pinus radiata

<400> 2271
Met Ala Arg Gly Lys Thr Gln Met Lys Lys Ile Glu Asn Val Thr Ser
1 5 10 15
Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Ile Val Phe
35 40 45
Ser Pro Ser Gly Lys Leu Tyr Glu Phe Ser Arg Pro Cys Met Gly Lys
50 55 60
Leu Leu Glu Lys Tyr Glu Lys Asn Ser Arg Glu Ser Gly Ile Asn Asn
65 70 75 80
Ala Ala Lys Glu Lys Asp Thr Gln His Ser Lys Arg Glu Ile Ala Asn
85 90 95
Met Glu Glu Lys Ile Arg Ile Leu Glu Ser Thr Glu Arg Lys Met Leu
100 105 110
Gly Gln Asn Leu Ala Ser

115

<210> 2272
<211> 147
<212> PRT
<213> Pinus radiata

<400> 2272
Met Asp Ser Phe Glu Ala Lys Gly Lys Gly Glu Lys Arg Arg Thr Val
1   5   10   15
Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Ala Thr Ser Arg Gln
            20   25   30
Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu
        35   40   45
Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Met Val Phe Ser Pro
    50   55   60
Arg Gly Lys Leu Tyr Glu Phe Ala Asn Pro Ser Met Gln Lys Met Leu
65   70   75   80
Glu Arg Tyr Glu Lys Cys Ser Glu Gly Ser Lys Thr Thr Ser Ile Ala
                85   90   95
Lys Glu Glu Asp Pro Lys Ala Leu Lys Arg Glu Ile Ala Asn Met Glu
            100   105   110
Glu Arg Ile Glu Ile Leu Glu Arg Thr Gln Arg Lys Met Leu Gly Glu
        115   120   125
Glu Leu Ala Ser Cys Ala Leu Lys Asp Leu Asn Gln Leu Glu Ser Gln
    130   135   140
Val Glu Arg
145

<210> 2273
<211> 113
<212> PRT
<213> Pinus radiata

<400> 2273
Met Gly Arg Gly Lys Ile Glu Ile Lys Lys Ile Glu Asn Ser Val His
1   5   10   15
Arg Gln Val Thr Phe Cys Lys Arg Arg Gly Gly Leu Met Lys Lys Ala
            20   25   30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe
        35   40   45
Ser Ser Arg Gly Lys Leu Tyr Glu Leu Gly Thr Ser Asn Asn Asn Asn
    50   55   60
Asn Ser Met Arg Ser Ile Leu Glu Arg Tyr Gln Lys Cys Ser Gln Thr
65   70   75   80
Ala Lys His Met Asn Phe Ser Asn Asn Thr Ser Asp Glu Lys Met Lys
                85   90   95
Gln Glu Ile Asn Leu Leu Lys Gln Gln Ile Gly Ser Ala Lys Leu Thr
            100   105   110
Asn

<210> 2274
<211> 97
<212> PRT
<213> Pinus radiata

<400> 2274

Ser Trp Lys Ala Asn Pro Cys Thr Val Pro Ser Ser Arg Ile Gly Gly
1   5   10   15
Phe Gly Gly Gly Gln Val Ile Leu Pro Leu Ala His Thr Val Glu His
            20   25   30
Glu Glu Phe Leu Glu Val Ile Lys Leu Glu Asn His Gly Leu Thr Gln
        35   40   45
Glu Glu Ala Leu Leu Ser Arg Asp Met Phe Leu Leu Gln Leu Cys Ser
    50   55   60
Gly Leu Asp Glu Asn Ala Val Gly Ala Cys Ala Glu Leu Val Phe Ala
65   70   75   80
Pro Ile Asp Ala Ser Leu Ala Asp Ser Ser Pro Leu Leu Pro Ser Gly
                85   90   95
Phe

<210> 2275
<211> 157
<212> PRT
<213> Pinus radiata

<400> 2275

Ser Val Asp Val Leu Thr Ala Phe Ser Thr Gly Asn Gly Gly Thr Ile
1   5   10   15
Glu Leu Leu Tyr Met Gln Met Tyr Ala Pro Thr Thr Leu Ala Ser Ala
            20   25   30
Arg Asp Phe Trp Thr Leu Arg Tyr Thr Ser Val Leu Glu Asp Gly Ser
        35   40   45
Leu Val Val Cys Glu Arg Ser Leu Ser Gly Thr Gln Gly Gly Pro Ser
    50   55   60
Met Pro Ala Val Gln Gln Phe Val Arg Ala Glu Met Gln Pro Ser Gly
65   70   75   80
Tyr Leu Ile Arg Pro Cys Glu Gly Gly Gly Ser Leu Ile His Ile Val
                85   90   95
Asp His Met Asp Leu Glu Pro Trp Ser Val Pro Glu Val Leu Arg Pro
            100   105   110
Leu Tyr Glu Ser Ser Thr Val Leu Ala Gln Lys Val Thr Met Ser Ala
        115   120   125
Leu Arg His Leu Arg Gln Ile Ala Gln Glu Ala Ser Ser Asp Val Val
    130   135   140
Leu Gly Trp Gly Arg Gln Pro Ala Ala Leu Arg Thr Phe
145   150   155

<210> 2276
<211> 327
<212> PRT
<213> Eucalyptus grandis

<400> 2276

Met Val Ser Val Asn Pro Asn Pro Ala Gln Gly Phe Tyr Phe Phe Asp
1   5   10   15
Pro Ala Asn Thr Arg Ile His Gly Val Asn Ala Gly Ser Ala Ala Glu
            20   25   30
Gly Gly Gly Ala Ala Pro Pro Tyr Ala Glu Asp Pro Ser Lys Lys Val
        35   40   45
Arg Lys Pro Tyr Thr Ile Thr Lys Ser Arg Glu Ser Trp Thr Glu Gln
    50   55   60

Glu His Asp Lys Phe Leu Glu Ala Leu His Leu Phe Asp Arg Asp Trp
65 70 75 80
Lys Lys Ile Glu Ala Phe Val Gly Ser Lys Thr Val Ile Gln Ile Arg
85 90 95
Ser His Ala Gln Lys Tyr Phe Leu Lys Val Gln Lys Asn Gly Thr Ser
100 105 110
Glu His Val Pro Pro Pro Arg Pro Lys Arg Lys Ala Ala His Pro Tyr
115 120 125
Pro Gln Lys Ala Pro Lys Ala Pro Val Val Ser Gln Val Asn Gly Pro
130 135 140
Phe Gln Val Ser Ser Ala Phe Leu Glu Pro Gly His Ile Val Arg Pro
145 150 155 160
Asp Gly Ser Ala Leu Leu Gly Asn Ser Arg Thr Ser Val Ala Leu Ser
165 170 175
Ser Trp Ser His Asn Ser Val Pro Ala Met Ser Ala Ser Gln Gly Thr
180 185 190
Lys Asp Val Gly Ile Ser Gly Pro Pro Val Pro Ser Asn Cys Cys Asn
195 200 205
Ser Ser Ser Asn Asp Ser Thr Pro Arg Ser Trp Pro Asn Ala Gln Ala
210 215 220
Ile Glu Pro Leu Asp Gln Gln Lys His Leu Arg Val Met Pro Asp Phe
225 230 235 240
Ala Gln Val Tyr Arg Phe Ile Gly Ser Val Phe Asp Pro Asp Ala Gly
245 250 255
Gly His Leu Gln Arg Leu Lys Gln Met Asp Pro Ile Asn Leu Glu Thr
260 265 270
Val Val Leu Leu Met Lys Asn Leu Ser Ala Asn Leu Thr Ser Pro Glu
275 280 285
Phe Glu Lys Tyr Gln His Gly Leu Phe Ala Ser Tyr Glu Gly Gly Pro
290 295 300
Glu Lys Ser Lys Ser Gly Gly Ser Phe Lys Leu Leu Pro Glu Lys Ser
305 310 315 320
Gly Ser Leu Ile Leu Ser Ala
325

<210> 2277
<211> 225
<212> PRT
<213> Pinus radiata

<400> 2277
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Gln Glu Asp Asp Arg Leu Ile Ala His Ile Arg Ala His
20 25 30
Gly Glu Gly Gly Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
50 55 60
Leu Lys Arg Gly Ser Phe Thr Glu Glu Glu Asp Glu Leu Ile Ile Lys
65 70 75 80
Leu His Ser Phe Val Gly Asn Lys Trp Ser Leu Ile Ala Gly Arg Leu
85 90 95
Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Ile
100 105 110
Lys Arg Lys Leu Leu Ser Lys Gly Leu Asp Pro Gln Thr His Arg Pro
115 120 125

Leu Gly Gln Pro Asn Asn Thr Pro Val Thr Arg Pro Val Leu Glu His
130 135 140
Glu Ile Pro Ala Phe Gln Asn Pro Ala Thr Pro Glu Ile Ala Asp Leu
145 150 155 160
Leu Gln His His Arg Leu Glu Ser Ser Pro Ile Lys Pro Ala Ala Ser
165 170 175
Asp Ala Glu Glu His Pro Asp Leu Asn Leu Asn Leu Cys Ile Ser Leu
180 185 190
Pro Ser Asn Ser Ala Pro Ala Val Asn Arg Val Ser Ser Val Asp Thr
195 200 205
Thr Val Asp Ser Asn Ser Asn Ser Gly Asp Gly Leu Cys Trp Gln Phe
210 215 220
Leu
225

<210> 2278
<211> 69
<212> PRT
<213> Pinus radiata

<400> 2278
Met Leu Leu Gln Asn Val Pro Pro Ala Leu Leu Val Arg Phe Leu Arg
1 5 10 15
Glu His Arg Ser Glu Trp Ala Asp Cys Asn Ile Asp Ala Tyr Ser Ser
20 25 30
Ala Thr Met Lys Ala Asn Ala Tyr Asn Val Pro Gly Ser Leu Gly Gly
35 40 45
Ile Thr Gly Ser Gln Val Ile Leu Pro Leu Ala His Thr Val Glu His
50 55 60
Glu Glu Phe Leu Glu
65

<210> 2279
<211> 65
<212> PRT
<213> Eucalyptus grandis

<400> 2279
Met Ala Arg Phe Pro Arg Val Asp Lys Ser Asn Ser Lys Lys Thr Val
1 5 10 15
Lys Lys Gly Ala Trp Ser Ala Glu Glu Asp Gln Lys Leu Val Ala Tyr
20 25 30
Ile Lys Arg Tyr Gly Ile Trp Asn Trp Thr His Met Ala Glu Pro Ala
35 40 45
Gly Leu Ala Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr
50 55 60
Leu
65

<210> 2280
<211> 39
<212> PRT
<213> Eucalyptus grandis

<400> 2280
Pro Asn Ile Lys His Gly Asn Ile Thr Gln Glu Glu Glu Glu Ile Ile
1 5 10 15

Ile Asn Leu His Arg Val Leu Gly Asn Arg Trp Ala Ser Ile Ala Ser
20 25 30
Arg Leu Ser Gly Arg Thr Asp
35

<210> 2281
<211> 59
<212> PRT
<213> Eucalyptus grandis

<400> 2281
Arg Lys Pro Cys Cys Asp Lys Gln Asp Thr Asn Lys Gly Ala Trp Ser
1 5 10 15
Lys Gln Glu Asp Gln Lys Leu Ile Asp Tyr Ile Arg Lys His Gly Glu
20 25 30
Gly Cys Trp Arg Thr Leu Pro Lys Ala Ala Gly Leu Leu Arg Cys Gly
35 40 45
Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
50 55

<210> 2282
<211> 48
<212> PRT
<213> Eucalyptus grandis

<400> 2282
Pro Asp Leu Lys Arg Gly Asn Phe Ala Glu Asp Glu Glu Asp Leu Ile
1 5 10 15
Ile Lys Leu His Ala Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly
20 25 30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr Trp Asn Ser
35 40 45

<210> 2283
<211> 19
<212> PRT
<213> Eucalyptus grandis

<400> 2283
Cys Cys Ser Lys Lys Ala Val Lys Arg Gly Phe Trp Ser Pro Glu Glu
1 5 10 15
Asp Leu Lys

<210> 2284
<211> 45
<212> PRT
<213> Eucalyptus grandis

<400> 2284
Trp Thr Arg Glu Glu Asp Asn Leu Leu Ile His Ser Ile Thr Cys His
1 5 10 15
Gly Glu Gly Arg Trp Asn Met Leu Ala Lys Ser Ala Gly Leu Lys Arg
20 25 30
Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
35 40 45

<210> 2285
<211> 57
<212> PRT
<213> Eucalyptus grandis

<400> 2285
Arg Pro Asp Ile Lys Arg Gly Asn Leu Thr Pro Gln Glu Gln Leu Met
1   5   10   15
Ile Leu Glu Leu His His Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala
            20   25   30
Gln Tyr Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg
        35   40   45
Thr Arg Val Gln Lys Gln Ala Arg Gln
    50   55

<210> 2286
<211> 57
<212> PRT
<213> Eucalyptus grandis

<400> 2286
Met Ala Ser Arg Lys Glu Val Asp Arg Ile Lys Gly Pro Trp Ser Pro
1   5   10   15
Glu Glu Asp Glu Ala Leu Arg Leu Leu Val Gln Lys His Gly Pro Arg
            20   25   30
Asn Trp Ser Leu Ile Ser Lys Ser Ile Pro Gly Arg Ser Gly Lys Ser
        35   40   45
Cys Arg Leu Arg Trp Cys Asn Gln Leu
    50   55

<210> 2287
<211> 68
<212> PRT
<213> Eucalyptus grandis

<400> 2287
Ser Pro Gln Val Glu His Arg Ala Phe Thr Pro Glu Glu Asp Asp Ile
1   5   10   15
Ile Val Arg Ala His Ala Arg Phe Gly Asn Lys Trp Ala Thr Ile Ala
            20   25   30
Arg Leu Leu Ser Gly Arg Thr Asp Asn Ala Ile Lys Asn His Trp Asn
        35   40   45
Ser Thr Leu Lys Arg Lys Cys Ser Pro Pro Leu Ser Pro Leu Ala Glu
    50   55   60
Glu Gly Asn Asn
65

<210> 2288
<211> 61
<212> PRT
<213> Eucalyptus grandis

<400> 2288
Met Gly Arg His Ser Cys Cys Tyr Lys Gln Lys Leu Arg Lys Gly Leu
1   5   10   15
Trp Ser Pro Glu Glu Asp Glu Lys Leu Leu Arg Tyr Ile Thr Gln Tyr
            20   25   30

Gly His Gly Cys Trp Ser Ser Val Pro Lys Leu Ala Gly Leu Gln Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
50 55 60

<210> 2289
<211> 78
<212> PRT
<213> Eucalyptus grandis

<400> 2289
Gly Ser Ser Pro Ile Asp Gly Ser Asp Gly Tyr Leu Ser Asp Asp Pro
1 5 10 15
Ala Pro Gly Ser Arg Ser Ser Asn Arg Arg Val Glu Arg Lys Lys Gly
20 25 30
Asn Pro Trp Thr Glu Glu Glu His Arg Arg Phe Leu Ile Gly Leu Gln
35 40 45
Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asp Phe Val Thr
50 55 60
Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys Tyr
65 70 75

<210> 2290
<211> 53
<212> PRT
<213> Eucalyptus grandis

<400> 2290
Lys Lys Gly Asn Pro Trp Thr Glu Glu Glu His Arg Arg Phe Leu Ile
1 5 10 15
Gly Leu Gln Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asp
20 25 30
Phe Val Thr Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys
35 40 45
Tyr Tyr Ile Arg Gln
50

<210> 2291
<211> 59
<212> PRT
<213> Eucalyptus grandis

<400> 2291
Arg Lys Pro Cys Cys Asp Lys Arg Asp Thr Asn Lys Gly Ala Trp Ser
1 5 10 15
Lys Gln Glu Asp Gln Lys Leu Ile Asp Tyr Ile Gln Lys His Gly Glu
20 25 30
Gly Ser Trp Arg Thr Leu Pro Gln Ala Ala Gly Leu Leu Arg Cys Gly
35 40 45
Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
50 55

<210> 2292
<211> 65
<212> PRT
<213> Eucalyptus grandis

<400> 2292
Pro Asp Leu Lys Arg Gly Asn Phe Ala Glu Asp Glu Glu Asp Leu Ile
1 5 10 15
Ile Lys Leu His Ala Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly
20 25 30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr Trp Asn Ser
35 40 45
His Leu Arg Arg Lys Leu Leu Lys Met Gly Ile Asp Pro Asn Asn His
50 55 60
Arg
65

<210> 2293
<211> 54
<212> PRT
<213> Eucalyptus grandis

<400> 2293
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Glu Glu Asp Gln Arg Leu Ile Asp Tyr Ile Arg Leu His
20 25 30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ser Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg
50

<210> 2294
<211> 65
<212> PRT
<213> Eucalyptus grandis

<400> 2294
Met Ala Arg Phe Pro Arg Val Asp Lys Ser Asn Ser Lys Lys Thr Val
1 5 10 15
Lys Lys Gly Ala Trp Ser Ala Glu Glu Asp Gln Lys Leu Val Ala Tyr
20 25 30
Ile Lys Arg Tyr Gly Ile Trp Asn Trp Thr His Met Ala Glu Pro Ala
35 40 45
Gly Leu Ala Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr
50 55 60
Leu
65

<210> 2295
<211> 40
<212> PRT
<213> Eucalyptus grandis

<400> 2295
Arg Pro Asn Ile Lys His Gly Asn Ile Thr Gln Glu Glu Glu Glu Ile
1 5 10 15
Ile Ile Asn Leu His Arg Val Leu Gly Asn Arg Trp Ala Ser Ile Ala
20 25 30
Ser Arg Leu Ser Gly Arg Thr Asp
35 40

<210> 2296
<211> 41
<212> PRT
<213> Eucalyptus grandis

<400> 2296
Arg Lys Gly Val Pro Trp Thr Glu Glu Glu His Arg Thr Phe Leu Met
1   5   10   15
Gly Leu Glu Lys Met Gly Lys Gly Asp Trp Arg Gly Ile Ser Arg Asn
            20   25   30
Tyr Val Thr Thr Arg Thr Pro Thr Gln
        35   40

<210> 2297
<211> 31
<212> PRT
<213> Eucalyptus grandis

<400> 2297
Arg Lys Gly Val Pro Trp Thr Glu Glu Glu His Arg Thr Phe Leu Met
1   5   10   15
Gly Leu Glu Lys Met Gly Lys Gly Asp Trp Arg Gly Ile Ser Arg
            20   25   30

<210> 2298
<211> 44
<212> PRT
<213> Eucalyptus grandis

<400> 2298
Glu Val Arg Lys Gly Pro Trp Thr Glu Gln Glu Asp Phe Gln Leu Val
1   5   10   15
Cys Phe Val Gly Leu Phe Gly Asp Arg Arg Trp Asp Phe Ile Ala Lys
            20   25   30
Val Ser Gly Leu Lys Val Ala Gly Glu Asn Asn Arg
        35   40

<210> 2299
<211> 61
<212> PRT
<213> Eucalyptus grandis

<400> 2299
Met Gly Arg Ser Pro Cys Cys Glu Ser Glu His Met Asn Lys Gly Ala
1   5   10   15
Trp Ser Lys Glu Glu Asp Glu Arg Leu Ile Ala Tyr Ile Lys Arg His
            20   25   30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
    50   55   60

<210> 2300
<211> 67
<212> PRT
<213> Eucalyptus grandis

<400> 2300
Pro Asp Leu Lys Arg Gly Asn Phe Ser Asp Glu Glu Asp Glu Leu Ile
1   5   10   15
Ile Thr Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Ala
            20   25   30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr
        35   40   45
His Ile Lys Arg Lys Leu His Ala Arg Gly Ile Asp Pro Gln Thr His
    50   55   60
Arg Pro Leu
65

<210> 2301
<211> 50
<212> PRT
<213> Eucalyptus grandis

<400> 2301
Lys Arg Gly Val Pro Trp Thr Glu Glu Glu His Arg Leu Phe Leu Leu
1   5   10   15
Gly Leu Gln Lys Val Gly Lys Gly Asp Trp Arg Ala Ile Ser Arg Asn
            20   25   30
Phe Val Lys Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys
        35   40   45
Tyr Phe
    50

<210> 2302
<211> 53
<212> PRT
<213> Eucalyptus grandis

<400> 2302
Lys Arg Gly Val Pro Trp Thr Glu Glu Glu His Arg Leu Phe Leu Leu
1   5   10   15
Gly Leu Gln Lys Val Gly Lys Gly Asp Trp Arg Ala Ile Ser Arg Asn
            20   25   30
Phe Val Lys Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys
        35   40   45
Tyr Phe Leu Arg Arg
    50

<210> 2303
<211> 64
<212> PRT
<213> Eucalyptus grandis

<400> 2303
Met Ala Ser Ser Ser Ser Val Ala Ser Ala Arg Lys Asp Ala Asp Arg
1   5   10   15
Ile Lys Gly Pro Trp Ser Pro Glu Glu Asp Glu Ala Leu Gln Arg Leu
            20   25   30
Val Gln Ser Tyr Gly Pro Arg Asn Trp Ser Leu Ile Ser Lys Ser Ile
        35   40   45
Pro Gly Arg Ser Gly Lys Ser Cys Arg Leu Arg Trp Cys Asn Gln Leu
    50   55   60

<210> 2304
<211> 98
<212> PRT
<213> Eucalyptus grandis

<400> 2304
Ser Pro Gln Val Glu His Arg Pro Phe Thr Pro Glu Glu Asp Glu Ala
1 5 10 15
Ile Val Arg Ala His Ala Arg Phe Gly Asn Lys Trp Ala Thr Ile Ala
20 25 30
Arg Leu Leu Asn Gly Arg Thr Asp Asn Ala Val Lys Asn His Trp Asn
35 40 45
Ser Thr Leu Lys Arg Lys Cys Ser Ser Thr Cys Ser Ala Gly Gly Asp
50 55 60
Asp Ala Asp Ala Leu Ala Glu Gln Gln Pro Leu Lys Arg Ser Ala Ser
65 70 75 80
Leu Gly Thr Pro Thr Gly Gly Asn Asn Ala Val Ser Asp Leu Phe Phe
85 90 95
Ser Pro

<210> 2305
<211> 50
<212> PRT
<213> Eucalyptus grandis

<400> 2305
Leu Arg Lys Gly Leu Trp Ser Pro Glu Glu Asp Asp Lys Leu Met Asn
1 5 10 15
Tyr Met Leu Asn Asn Gly Gln Gly Cys Trp Ser Asp Val Ala Arg Asn
20 25 30
Ala Gly Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn
35 40 45
Tyr Leu
50

<210> 2306
<211> 60
<212> PRT
<213> Eucalyptus grandis

<400> 2306
Pro Asp Leu Lys Arg Gly Ala Phe Ser Pro Gln Glu Glu Glu Leu Ile
1 5 10 15
Ile His Leu His Ser Ile Leu Gly Asn Arg Trp Ser Gln Ile Ala Ala
20 25 30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Phe Trp Asn Ser
35 40 45
Thr Ile Lys Lys Arg Ser Arg Thr Arg His His Leu
50 55 60

<210> 2307
<211> 44
<212> PRT
<213> Eucalyptus grandis

<400> 2307

Lys Leu Asp Phe Ser Glu Asp Glu Glu Thr Leu Val Ile Arg Met Tyr
1   5   10   15
Asn Leu Val Gly Glu Arg Trp Ser Leu Ile Ala Gly Arg Ile Pro Gly
            20   25   30
Arg Thr Ala Glu Glu Ile Glu Lys Tyr Trp Asn Ser
        35   40

<210> 2308
<211> 61
<212> PRT
<213> Eucalyptus grandis

<400> 2308
Met Gly Arg Gln Pro Cys Cys Asp Lys Leu Gly Val Lys Lys Gly Pro
1   5   10   15
Trp Thr Ala Glu Glu Asp Arg Lys Leu Val Asn Phe Ile Leu Thr His
            20   25   30
Gly Gln Cys Cys Trp Arg Ala Val Pro Lys Leu Ala Gly Leu Arg Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu
    50   55   60

<210> 2309
<211> 64
<212> PRT
<213> Eucalyptus grandis

<400> 2309
Pro Asp Leu Lys Arg Gly Leu Leu Asn Glu Ala Glu Glu Ser Leu Val
1   5   10   15
Ile Asp Leu His Ala Thr Leu Gly Asn Arg Trp Ser Lys Ile Ala Ala
            20   25   30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn His Trp Asn Thr
        35   40   45
His Ile Lys Lys Lys Leu Ile Arg Met Gly Ile Asp Pro Val Thr His
    50   55   60

<210> 2310
<211> 61
<212> PRT
<213> Eucalyptus grandis

<400> 2310
Met Gly Arg Gln Pro Cys Cys Asp Lys Ser Gly Val Lys Lys Gly Pro
1   5   10   15
Trp Thr Ala Glu Glu Asp Lys Lys Leu Ile Asn Phe Ile Leu Thr Asn
            20   25   30
Gly His Cys Cys Trp Arg Ala Val Pro Lys Leu Ala Gly Leu Arg Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu
    50   55   60

<210> 2311
<211> 67
<212> PRT
<213> Eucalyptus grandis

<400> 2311
Pro Asp Leu Lys Arg Gly Leu Leu Ser Glu Ala Glu Glu Gln Leu Val
1   5   10   15
Ile Asp Leu His Ala Arg Leu Gly Asn Arg Trp Ser Lys Ile Ala Ala
            20   25   30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn His Trp Asn Thr
        35   40   45
His Ile Lys Lys Lys Leu Leu Lys Met Gly Ile Asp Pro Val Thr His
    50   55   60
Glu Pro Leu
65

<210> 2312
<211> 50
<212> PRT
<213> Pinus radiata

<400> 2312
Lys Lys Gly Val Pro Trp Ser Glu Glu Glu His Arg Met Phe Leu Tyr
1   5   10   15
Gly Leu Glu Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ser Arg Asn
            20   25   30
Phe Val Thr Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys
        35   40   45
Tyr Phe
    50

<210> 2313
<211> 53
<212> PRT
<213> Pinus radiata

<400> 2313
Lys Lys Gly Val Pro Trp Ser Glu Glu Glu His Arg Met Phe Leu Tyr
1   5   10   15
Gly Leu Glu Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ser Arg Asn
            20   25   30
Phe Val Thr Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys
        35   40   45
Tyr Phe Leu Arg Gln
    50

<210> 2314
<211> 60
<212> PRT
<213> Pinus radiata

<400> 2314
Gly Lys Ser Pro Gly His Asp Glu Pro Asp Arg Ile Lys Gly Pro Trp
1   5   10   15
Ser Pro Glu Glu Asp Ala Ala Leu Gln His Phe Val Gln Lys Tyr Gly
            20   25   30
Pro Arg Asn Trp Ser Leu Ile Ser Lys Ala Ile Pro Gly Arg Ser Gly
        35   40   45
Lys Ser Cys Arg Leu Arg Trp Cys Asn Gln Leu Ser
    50   55   60

<210> 2315
<211> 60
<212> PRT
<213> Pinus radiata

<400> 2315
Pro Gln Val Glu His Arg Pro Phe Thr Pro Glu Glu Asp Ala Thr Ile
1   5   10   15
Val Arg Ala His Ala Gln His Gly Asn Lys Trp Ala Thr Ile Ala Arg
            20   25   30
Met Leu Ser Gly Arg Thr Asp Asn Ala Ile Lys Asn His Trp Asn Ser
        35   40   45
Thr Leu Arg Arg Arg Cys Gln Gly Gly Gly Ala Leu
    50   55   60

<210> 2316
<211> 20
<212> PRT
<213> Pinus radiata

<400> 2316
Lys Arg Gly Val Pro Trp Thr Glu Glu Glu His Arg Met Phe Leu Val
1   5   10   15
Gly Leu Gln Arg
            20

<210> 2317
<211> 18
<212> PRT
<213> Pinus radiata

<400> 2137
Lys Arg Gly Val Pro Trp Thr Glu Glu Glu His Arg Met Phe Leu Val
1   5   10   15
Gly Leu

<210> 2318
<211> 10
<212> PRT
<213> Pinus radiata

<400> 2318
Lys Arg Gly Val Pro Trp Thr Glu Glu Glu
1   5   10

<210> 2319
<211> 14
<212> PRT
<213> Pinus radiata

<400> 2319
Lys Arg Gly Val Pro Trp Thr Glu Glu Glu His Arg Met Phe
1   5   10

<210> 2320
<211> 68

<212> PRT
<213> Pinus radiata

<400> 2320
Met Arg Cys Thr Arg Trp Gln Gly Leu Pro Phe Ser Ser Lys Pro Lys
1   5   10   15
Val Lys Lys Gly Leu Trp Ser Pro Glu Glu Asp Glu Lys Leu Ile Asn
            20   25   30
Tyr Met Met Lys Asn Gly Leu Leu Gly Cys Ser Trp Ser Tyr Val Ala
        35   40   45
Lys Gln Ile Gly Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp
    50   55   60
Thr Asn Tyr Leu
65

<210> 2321
<211> 62
<212> PRT
<213> Pinus radiata

<400> 2321
Met Gly Arg Ala Pro Cys Cys Asp Lys Ala Asn Val Lys Lys Gly Pro
1   5   10   15
Trp Ser Pro Glu Glu Asp Thr Lys Leu Lys Ala Phe Ile Glu Gln His
            20   25   30
Gly Thr Gly Gly Asn Trp Ile Ala Leu Pro Gln Lys Ala Gly Leu Lys
        35   40   45
Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
    50   55   60

<210> 2322
<211> 60
<212> PRT
<213> Pinus radiata

<400> 2322
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1   5   10   15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Ala His Ile Arg Thr His
            20   25   30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Met Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr
    50   55   60

<210> 2323
<211> 46
<212> PRT
<213> Pinus radiata

<400> 2323
Arg Pro Asp Leu Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Glu Leu
1   5   10   15
Ile Ile Lys Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala
            20   25   30
Gly Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
        35   40   45

<210> 2324
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2324
Met Gly Arg Ala Pro Cys Cys Glu Lys Val Gly Leu Lys Lys Gly Pro
1   5   10   15
Trp Thr Pro Glu Glu Asp Gln Lys Leu Leu Ala Tyr Ile Gln Glu His
            20   25   30
Gly His Gly Ser Trp Arg Ala Leu Pro Gln Lys Ala Gly Leu Leu Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu
    50   55   60

<210> 2325
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2325
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1   5   10   15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Ala His Ile Arg Thr His
            20   25   30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Met Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
    50   55   60

<210> 2326
<211> 45
<212> PRT
<213> Pinus radiata

<400> 2326
Pro Asp Leu Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Glu Leu Val
1   5   10   15
Ile Lys Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly
            20   25   30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
        35   40   45

<210> 2327
<211> 50
<212> PRT
<213> Pinus radiata

<400> 2327
Lys Lys Gly Val Pro Trp Thr Glu Glu Glu His Arg Met Phe Leu Leu
1   5   10   15
Gly Leu Gln Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asn
            20   25   30
Phe Val Ile Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys
        35   40   45
Tyr Phe

50

<210> 2328
<211> 53
<212> PRT
<213> Pinus radiata

<400> 2328
Lys Lys Gly Val Pro Trp Thr Glu Glu Glu His Arg Met Phe Leu Leu
1 5 10 15
Gly Leu Gln Lys Leu Gly Lys Gly Asp Trp Arg Gly Ile Ala Arg Asn
20 25 30
Phe Val Ile Thr Arg Thr Pro Thr Gln Val Ala Ser His Ala Gln Lys
35 40 45
Tyr Phe Ile Arg Gln
50

<210> 2329
<211> 48
<212> PRT
<213> Pinus radiata

<400> 2329
Gln Arg Glu Arg Trp Ser Glu Asp Glu His Leu Lys Phe Leu Glu Ala
1 5 10 15
Leu Lys Met Tyr Gly Arg Ala Trp Arg Arg Ile Glu Glu His Ile Gly
20 25 30
Thr Lys Thr Ala Val Gln Ile Arg Ser His Ala Gln Lys Phe Phe Ser
35 40 45

<210> 2330
<211> 42
<212> PRT
<213> Pinus radiata

<400> 2330
Gln Arg Glu Arg Trp Ser Glu Asp Glu His Leu Lys Phe Leu Glu Ala
1 5 10 15
Leu Lys Met Tyr Gly Arg Ala Trp Arg Arg Ile Glu Glu His Ile Gly
20 25 30
Thr Lys Thr Ala Val Gln Ile Arg Ser His
35 40

<210> 2331
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2331
Met Gly Arg Thr Pro Cys Cys Leu Lys Val Gly Leu Asn Arg Gly Pro
1 5 10 15
Trp Thr Pro Glu Glu Asp Leu Cys Leu Ser Asn Tyr Ile Glu Ala His
20 25 30
Gly Glu Gly Gly Trp Arg Thr Leu Pro Lys Lys Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr Leu
50 55 60

<210> 2332
<211> 67
<212> PRT
<213> Pinus radiata

<400> 2332
Pro Asp Val Lys His Gly His Ile Leu Pro Glu Glu Glu Asp Leu Ile
1   5   10   15
Leu Arg Leu His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly
            20   25   30
Arg Met Pro Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr Trp Asn Thr
        35   40   45
His Leu Ser Lys Lys Leu Ile Ser Gln Gly Ile Asp Pro Arg Thr His
    50   55   60
Lys Pro Leu
65

<210> 2333
<211> 55
<212> PRT
<213> Pinus radiata

<400> 2333
Cys Glu Asp Leu Asp Arg Ile Lys Gly Pro Trp Ser Pro Glu Glu Asp
1   5   10   15
Ala Ser Leu Gln Arg Leu Val Gln Lys Tyr Gly Pro Arg Asn Trp Thr
            20   25   30
Leu Ile Ser Lys Gly Ile Pro Gly Arg Ser Gly Lys Ser Cys Arg Leu
        35   40   45
Arg Trp Cys Asn Gln Leu Ser
    50   55

<210> 2334
<211> 56
<212> PRT
<213> Pinus radiata

<400> 2334
Lys Gly Pro Trp Ser Pro Glu Glu Asp Ala Ser Leu Gln Arg Leu Val
1   5   10   15
Gln Lys Tyr Gly Pro Arg Asn Trp Thr Leu Ile Ser Lys Gly Ile Pro
            20   25   30
Gly Arg Ser Gly Lys Ser Cys Arg Leu Arg Trp Cys Asn Gln Leu Ser
        35   40   45
Pro Gln Val Glu His Arg Pro Phe
    50   55

<210> 2335
<211> 34
<212> PRT
<213> Pinus radiata

<400> 2335
Met Gly Ala Pro Lys Gln Lys Trp Thr Ser Glu Glu Glu Gly Ala Leu
1   5   10   15
Arg Ala Gly Val Glu Lys Tyr Gly Ala Gly Lys Trp Gln Thr Ile Leu

20 25 30
Lys Asp

<210> 2336
<211> 51
<212> PRT
<213> Pinus radiata

<400> 2336
Leu Arg Lys Gly Leu Trp Ser Pro Asp Glu Asp Ile Glu Leu Thr Thr
1 5 10 15
Tyr Ile Met Arg Lys Gly Leu Met Gly Cys Trp Asn Tyr Ile Ala Lys
20 25 30
Gln Ala Gly Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile
35 40 45
Asn Tyr Leu
50

<210> 2337
<211> 45
<212> PRT
<213> Pinus radiata

<400> 2337
Pro Gly Leu Lys Arg Cys Ala Ile Ser Pro Gln Glu Glu Arg Leu Ile
1 5 10 15
Ile Gln Leu Gln Ser Ser Leu Gly Asn Arg Trp Ser Gln Ile Ala Ala
20 25 30
His Leu Pro Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr
35 40 45

<210> 2338
<211> 62
<212> PRT
<213> Pinus radiata

<400> 2338
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Gln Gln Glu Asp Thr Arg Leu Val Ala His Ile Arg Ala His
20 25 30
Gly Gln Gly Gly Trp Ser Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Gln Arg Trp Ile Asn Tyr Leu His
50 55 60

<210> 2339
<211> 39
<212> PRT
<213> Pinus radiata

<400> 2339
Pro Asp Leu Lys Arg Ser Asn Phe Ser Glu Glu Glu Asp Glu Leu Ile
1 5 10 15
Val Arg Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly
20 25 30

Arg Leu Pro Gly Arg Thr Asp
35

<210> 2340
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2340
Gly Thr His Pro Ala Pro Ser Lys Pro Lys Leu Arg Lys Gly Leu Trp
1 5 10 15
Ser Pro Val Glu Asp Asn Gln Leu Thr Asn Tyr Ile Leu Arg Arg Gly
20 25 30
Leu Val Gly Cys Trp Asn Tyr Val Ala Lys Gln Ala Gly Leu Gln Arg
35 40 45
Thr Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
50 55 60

<210> 2341
<211> 43
<212> PRT
<213> Pinus radiata

<400> 2341
Pro Gly Leu Lys Arg His Pro Ile Ser Arg Gln Glu Glu Gln Leu Ile
1 5 10 15
Ile Glu Leu Gln Ser Ile Leu Gly Asn Arg Trp Ser Gln Ile Ala Ala
20 25 30
Gln Leu Pro Gly Arg Thr Asp Ile Glu Ile Lys
35 40

<210> 2342
<211> 61
<212> PRT
<213> Eucalyptus grandis

<400> 2342
Met Gly Arg His Ser Cys Cys Tyr Lys Gln Lys Leu Arg Lys Gly Leu
1 5 10 15
Trp Ser Pro Glu Glu Asp Glu Lys Leu Leu Arg His Ile Ser Gln Tyr
20 25 30
Gly His Gly Cys Trp Ser Ser Val Pro Lys Gln Ala Gly Leu Gln Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
50 55 60

<210> 2343
<211> 67
<212> PRT
<213> Eucalyptus grandis

<400> 2343
Pro Asp Leu Lys Arg Gly Ala Phe Ser Gln Asp Glu Glu Asp Leu Ile
1 5 10 15
Ile Glu Leu His Ala Ala Leu Gly Asn Lys Trp Ser Gln Ile Ala Ala
20 25 30
Asn Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Leu Trp Asn Ser

35 40 45
Cys Leu Lys Lys Lys Leu Arg Gln Arg Gly Ile Asp Pro Val Ser His
50 55 60
Arg Pro Leu
65

<210> 2344
<211> 58
<212> PRT
<213> Eucalyptus grandis

<400> 2344
Thr Pro Cys Cys Ser Lys Val Gly Ile Lys Arg Gly Pro Trp Thr Pro
1 5 10 15
Glu Glu Asp Glu Val Leu Ala Ser Tyr Val Arg Arg Glu Gly Glu Gly
20 25 30
Arg Trp Arg Thr Leu Pro Lys Arg Ala Gly Leu Gln Arg Cys Gly Lys
35 40 45
Ser Cys Arg Leu Arg Trp Met Asn Tyr Leu
50 55

<210> 2345
<211> 67
<212> PRT
<213> Eucalyptus grandis

<400> 2345
Pro Ser Val Lys Arg Gly Gln Ile Ala Pro Asp Glu Glu Asp Leu Ile
1 5 10 15
Leu Arg Leu His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly
20 25 30
Arg Ile Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr
35 40 45
His Leu Ser Lys Lys Leu Ile Ser Gln Gly Ile Asp Pro Arg Thr His
50 55 60
Lys Pro Leu
65

<210> 2346
<211> 67
<212> PRT
<213> Eucalyptus grandis

<400> 2346
Met Asp Lys Lys Pro Asp Asp Asp Ser Gly Lys Ser Gln Asp Val Glu
1 5 10 15
Val Arg Lys Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn
20 25 30
Tyr Ile Ala Asn His Gly Glu Gly Ser Trp Asn Ser Leu Ala Lys Ala
35 40 45
Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn
50 55 60
Tyr Leu Arg
65

<210> 2347
<211> 56

<212> PRT
<213> Eucalyptus grandis

<400> 2347
Pro Asp Val Arg Arg Gly Asn Ile Thr Thr Glu Glu Gln Leu Leu Ile
1   5   10   15
Met Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala Lys
            20   25   30
His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Phe Trp Arg Thr
        35   40   45
Arg Ile Gln Lys His Ile Lys Gln
    50   55

<210> 2348
<211> 63
<212> PRT
<213> Eucalyptus grandis

<400> 2348
Met Asp Lys Lys Pro Cys Tyr Arg Thr Gln Asp Pro Gln Val Arg Lys
1   5   10   15
Gly Pro Trp Thr Leu Glu Glu Asp Leu Ile Leu Met Asp Tyr Ile Ala
            20   25   30
Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly Leu
        35   40   45
Gln Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
    50   55   60

<210> 2349
<211> 54
<212> PRT
<213> Eucalyptus grandis

<400> 2349
Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile
1   5   10   15
Ile His Leu Gln Ser Met Trp Gly Asn Arg Trp Ser Glu Ile Ala Lys
            20   25   30
His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg Thr
        35   40   45
Lys Ile Gln Lys His Ile
    50

<210> 2350
<211> 47
<212> PRT
<213> Eucalyptus grandis

<400> 2350
Ser Arg Glu Ser Trp Thr Glu Gln Glu His Asp Lys Phe Leu Glu Ala
1   5   10   15
Leu His Leu Phe Asp Arg Asp Trp Lys Lys Ile Glu Ala Phe Val Gly
            20   25   30
Ser Lys Thr Val Ile Gln Ile Arg Ser His Ala Gln Lys Tyr Phe
        35   40   45

<210> 2351

<211> 59
<212> PRT
<213> Eucalyptus grandis

<400> 2351

```
Ser Trp Thr Glu Gln Glu His Asp Lys Phe Leu Glu Ala Leu His Leu
 1               5                  10                  15
Phe Asp Arg Asp Trp Lys Lys Ile Glu Ala Phe Val Gly Ser Lys Thr
            20                  25                  30
Val Ile Gln Ile Arg Ser His Ala Gln Lys Tyr Phe Leu Lys Val Gln
        35                  40                  45
Lys Asn Gly Thr Ser Glu His Val Pro Pro Pro
    50                  55
```

<210> 2352
<211> 45
<212> PRT
<213> Pinus radiata

<400> 2352

```
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
 1               5                  10                  15
Trp Thr Lys Gln Glu Asp Asp Arg Leu Ile Ala His Ile Arg Ala His
            20                  25                  30
Gly Glu Gly Gly Trp Arg Ser Leu Pro Lys Ala Ala Gly
        35                  40                  45
```

<210> 2353
<211> 45
<212> PRT
<213> Pinus radiata

<400> 2353

```
Met Gly Arg Ala Pro Cys Cys Glu Lys Val Gly Leu Lys Lys Gly Pro
 1               5                  10                  15
Trp Thr Pro Glu Glu Asp Gln Lys Leu Val Thr Tyr Ile Gln Glu His
            20                  25                  30
Gly His Gly Ser Trp Arg Ala Leu Pro Gln Lys Ala Gly
        35                  40                  45
```

<210> 2354
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2354

```
Met Gly Arg Ser Pro Cys Cys Ala Lys Glu Gly Leu Asn Arg Gly Ala
 1               5                  10                  15
Trp Thr Lys Thr Glu Asp Ile Ile Leu Ser Glu Tyr Ile Arg Ile His
            20                  25                  30
Gly Asp Gly Gly Trp Arg Ser Leu Pro Lys Lys Ala Gly Leu Lys Arg
        35                  40                  45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
    50                  55                  60
```

<210> 2355
<211> 61

<212> PRT
<213> Pinus radiata

<400> 2355
Met Gly Arg Ala Pro Cys Cys Ser Asn Asp Asp Arg Asn Lys Gly Ala
1   5   10   15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Gln Tyr Ile Lys Val His
            20   25   30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
    50   55   60

<210> 2356
<211> 68
<212> PRT
<213> Pinus radiata

<400> 2356
Pro Asp Leu Lys Arg Gly Phe Phe Ser Glu Asp Glu Asp Asp Leu Ile
1   5   10   15
Leu Lys Leu His Ala Leu Leu Gly Asn Asn Arg Trp Ser Leu Ile Ala
            20   25   30
Gly Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn
        35   40   45
Ser His Leu Lys Arg Lys Leu Ile Ser Met Gly Ile Asp Pro Leu Thr
    50   55   60
His Arg Pro Phe
65

<210> 2357
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2357
Met Gly Arg Ala Pro Cys Cys Ser Asn Gly Asp Arg Asn Lys Gly Ala
1   5   10   15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Gln Tyr Ile Lys Val His
            20   25   30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Asn Ala Ala Gly Leu Leu Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
    50   55   60

<210> 2358
<211> 39
<212> PRT
<213> Pinus radiata

<400> 2358
Pro Asp Leu Lys Arg Gly Phe Phe Ser Glu Asp Glu Asp Asp Leu Ile
1   5   10   15
Leu Lys Leu His Ala Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly
            20   25   30
Arg Leu Pro Gly Arg Thr Asp
        35

<210> 2359
<211> 62
<212> PRT
<213> Pinus radiata

<400> 2359
Met Gly Arg Thr Pro Cys Cys Glu Lys Asn Ile Gly Leu Lys Lys Gly
1   5   10   15
Pro Trp Thr Pro Glu Glu Asp Gln Lys Leu Ile Asp Tyr Ile Gln Ser
            20   25   30
His Gly His Gly Ser Trp Arg Ala Leu Pro Lys Arg Ala Gly Leu Leu
        35   40   45
Arg Cys Gly Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu
    50   55   60

<210> 2360
<211> 66
<212> PRT
<213> Pinus radiata

<400> 2360
Pro Asp Ile Lys Arg Gly Gln Phe Ser Phe Glu Glu Glu Gln Thr Ile
1   5   10   15
Ile Glu Leu His Ala Val Leu Gly Asn Lys Trp Ser Thr Ile Ala Gly
            20   25   30
His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr
        35   40   45
His Leu Lys Lys Arg Leu Leu Gln Met Gly Ile Asp Pro Val Thr His
    50   55   60
Arg Pro
65

<210> 2361
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2361
Met Gly Arg Thr Pro Cys Cys Leu Lys Val Gly Leu Asn Arg Gly Pro
1   5   10   15
Trp Thr Pro Glu Glu Asp Leu Cys Leu Ser Asn Tyr Ile Glu Ala His
            20   25   30
Gly Glu Gly Gly Trp Arg Thr Leu Pro Lys Lys Ala Gly Leu Leu Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Met Asn Tyr Leu
    50   55   60

<210> 2362
<211> 67
<212> PRT
<213> Pinus radiata

<400> 2362
Pro Asp Val Lys His Gly His Ile Leu Pro Glu Glu Glu Asp Leu Ile
1   5   10   15
Leu Arg Leu His Arg Leu Leu Gly Asn Arg Trp Ser Leu Ile Ala Gly

20 25 30
Arg Met Pro Gly Arg Thr Asp Asn Glu Val Lys Asn Tyr Trp Asn Thr
35 40 45
His Leu Ser Lys Lys Leu Ile Ser Gln Gly Ile Asp Pro Arg Thr His
50 55 60
Lys Pro Leu
65

<210> 2363
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2363
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Gln Glu Asp Asp Arg Leu Ile Ala His Ile Arg Ala His
20 25 30
Gly Glu Gly Gly Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
50 55 60

<210> 2364
<211> 67
<212> PRT
<213> Pinus radiata

<400> 2364
Pro Asp Leu Lys Arg Gly Ser Phe Thr Glu Glu Glu Asp Glu Leu Ile
1 5 10 15
Ile Lys Leu His Ser Phe Val Gly Asn Lys Trp Ser Leu Ile Ala Gly
20 25 30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr
35 40 45
His Ile Lys Arg Lys Leu Leu Ser Lys Gly Leu Asp Pro Gln Thr His
50 55 60
Arg Pro Leu
65

<210> 2365
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2365
Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1 5 10 15
Trp Thr Lys Gln Glu Asp Asp Arg Leu Ile Ala His Ile Arg Ala His
20 25 30
Gly Glu Gly Gly Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Leu Arg
35 40 45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
50 55 60

<210> 2366
<211> 67

<212> PRT
<213> Pinus radiata

<400> 2366

Pro Asp Leu Lys Arg Gly Ser Phe Thr Glu Glu Glu Asp Glu Leu Ile
1   5   10   15
Ile Lys Leu His Ser Phe Val Gly Asn Lys Trp Ser Leu Ile Ala Gly
            20   25   30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr
        35   40   45
His Ile Lys Arg Lys Leu Leu Ser Lys Gly Leu Asp Pro Gln Thr His
    50   55   60
Arg Pro Leu
65

<210> 2367
<211> 61
<212> PRT
<213> Pinus radiata

<400> 2367

Met Gly Arg Ser Pro Cys Cys Glu Lys Ala His Thr Asn Lys Gly Ala
1   5   10   15
Trp Thr Lys Glu Glu Asp Asp Arg Leu Ile Ala His Ile Arg Thr His
            20   25   30
Gly Glu Gly Cys Trp Arg Ser Leu Pro Lys Ala Ala Gly Leu Met Arg
        35   40   45
Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu
    50   55   60

<210> 2368
<211> 67
<212> PRT
<213> Pinus radiata

<400> 2368

Pro Asp Leu Lys Arg Gly Asn Phe Ser Glu Glu Glu Asp Glu Leu Val
1   5   10   15
Ile Lys Leu His Ser Leu Leu Gly Asn Lys Trp Ser Leu Ile Ala Gly
            20   25   30
Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr
        35   40   45
His Ile Lys Arg Lys Leu Leu Asn Arg Gly Leu Asp Pro Gln Ser His
    50   55   60
Arg Pro Leu
65